meccano magazine

APRIL
1964



the practical boy's hobbies magazine

IN THIS ISSUE

- You can go Karting this year
- Photography: Let's put you in the picture

1s.3d.

MECCANO

the toy
that grows with
the boy!



When children are 6 or 7 they can make their first Meccano models with the simple No. 0 outfit at only 13/3. As the years pass they can add larger outfits, accessories and motors to make more intricate models. Meccano builders can copy almost anything made by engineers—there's no limit to the sturdy working models that can be constructed.
Ask your dealer to show *you* the latest outfits with useful new parts and illustrated model plans—you'll have a hobby that grows with the years.

MECCANO
a hundred toys in one!

Made and guaranteed by Meccano Ltd, Liverpool



DEVELOP AND PRINT YOUR OWN FILMS WITH A JOHNSON DO-IT-YOURSELF KIT

These easy-to-use kits come complete with chemicals, accessories, instructions and the "Home Photography" book. Stocked by good photo dealers. From 37/6 to 112/6.

JOHNSONS
OF HENDON LTD

Did You Know?

That FLEISCHMANN track will connect direct with H/D or ANY code 100-2-rail track

This includes the electrically operated double slip at 44/4.

With FLEISCHMANN you pay a bit more but receive a lot more in

QUALITY—PERFORMANCE—RELIABILITY

We can give FLEISCHMANN 100% Recommendation

CATALOGUE 2/9 POST FREE

Also available—Wheelclean Brush—The easy way to clean those dirty wheels—*5/11 plus 6d post*

KING CHARLES SPORTS CENTRE
RAILWAY HOUSE
KING CHARLES STREET, LEEDS, 1
Tel. 26611

He's proud of his bicycle...

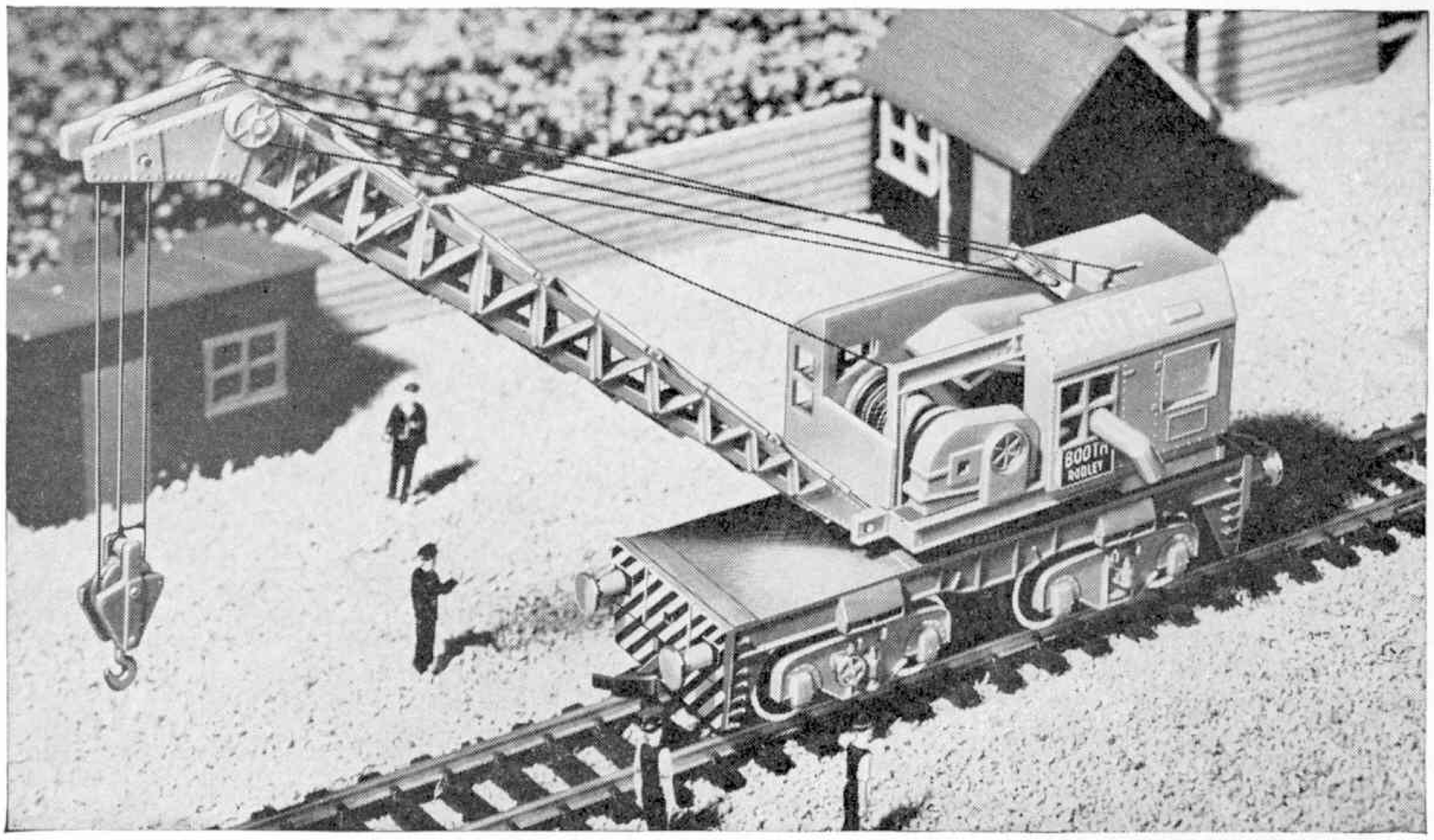
The SMITHS cycle speedometer looks good—your friends will crowd round to admire it on *your* cycle. And it costs only 47/6.

Your SMITHS cycle speedometer tells you your speed accurately up to 40 m.p.h. and records distance up to 10,000 miles. Take one look at this smart SMITHS cycle speedometer—and you'll know you *must* have one! You can get it at all branches of Halfords and most other good cycle stores. Ask to see one today!

...with its new Smiths cycle speedometer

from **SMITHS** MOTOR ACCESSORY DIVISION

OXGATE LANE, LONDON N.W.2.



. . . it really operates!

This Airfix OO/HO scale Diesel Crane is a working model in every detail. 79-part kit 3/-.

It's typical of the realism you get with Airfix models. They're just like the real thing! More than that, though, Airfix give you constant scale, so that the models of every series are proportionately right; and a great ever-increasing range—there are 13 series now, with over 200 kits. At prices from 2/- to 17/6, Airfix are great on value too.

For endless modelling fun—make it Airfix.

JUST LIKE THE REAL THING!

AIRFIX

CONSTANT SCALE CONSTRUCTION KITS

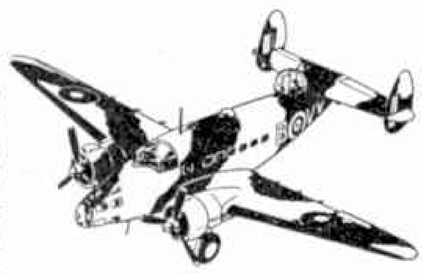
From model and hobby shops, toy shops, and F. W. Woolworth.

STOP PRESS !

LATEST AIRFIX PRODUCTION

LOCKHEED HUDSON 1

Pilot, navigator, gunner in revolving turret with elevating guns, retractable undercarriage, moving ailerons, etc., all contribute to the wonderful realism of this superbly detailed 1/72nd scale model. 11 inch wing span. 85-part kit. **4/6d.**



ALSO NEW: a 43-part kit of the small 0—4—0 Saddle Tank in 00/H0 gauge. **Price 2/-**

T.162

GET YOUR CATALOGUE

32 pages of models, facts and kit details from your dealer - only 9d



editor · Geoffrey Byrom
assistant editor · Stanley Emson
editorial, publishing and advertisement offices: Thomas Skinner & Co (Publishers) Ltd
St Alphage House, Fore Street, London EC2
phone: NATional 4050 Grams: Desollar London EC2
Registered at the GPO London for transmission by Canadian National Post
© Meccano Limited 1964

meccano magazine

April 1964 Vol. 49 No. 2 Published monthly

IN THIS ISSUE

The sound and the fury	4
Soccer skills	7
Harry H. Corbett	8
Mailbag	11
Down by the riverside	13
What's your problem?	15
Lets put you in the picture	16
What's new	18
Go-Karting this year	22
What's an Air Force?	24
New fashions in figureheads	27
Build a model stone crusher	30
Dad's answer to challenge	32
Build a dynamo with Elektrikit	33
Building a paper world	34
A striking new Hornby model	36
Combined shop and office	37
A new racing car	38
Miniature train formations	43
Stamps	45
Round the societies	47

next month

Build your own real sailing dinghy for this summer ... or know more about bikes in a great new series of features. John Atkinson will be writing about aero-modelling, and there will be all the valuable regular features by your favourite hobbies writers.

New features

How do you like those Go-Karts on our cover this month? And what do you think of the pictures that illustrate Jerry Ames's article on dragsters on page 4?

Talking about pictures, we are introducing this month a new practical feature on photography which should improve everyone's enjoyment of this fascinating hobby. If it is not one of your hobbies yet, why not get interested right now? The first article is an introduction telling you the basic rules.

And if you are of a more contemplative way of mind, we are starting a series about fishing by the well-known angling writer, John Crossman, who writes this month mainly about trout fishing.

Something for everyone is what we are aiming at. For instance, next month we have a great picture feature about building a boat, a real sailing dinghy which is simple to build and any of us would be proud to own. We also have an expert on cycling who begins his articles for you in May. And perhaps most interesting of all, John Atkinson will be writing again, the first of a brand new series about model aircraft. He tells me that the first article will be about control-line models for beginners.

Be sure to write and tell us what you would like to see in your Meccano Magazine. We'll consider any suggestions.

by **Jerry Ames**

1 A 'wheelstand'—not to be recommended if your car is out of line.

2 Sidney Allard—builder of Britain's first dragster, is planning the first British International Drag Festival to take place in September 1964.

3 Blast off at Debden, Essex.

The **sound** and the **fury**

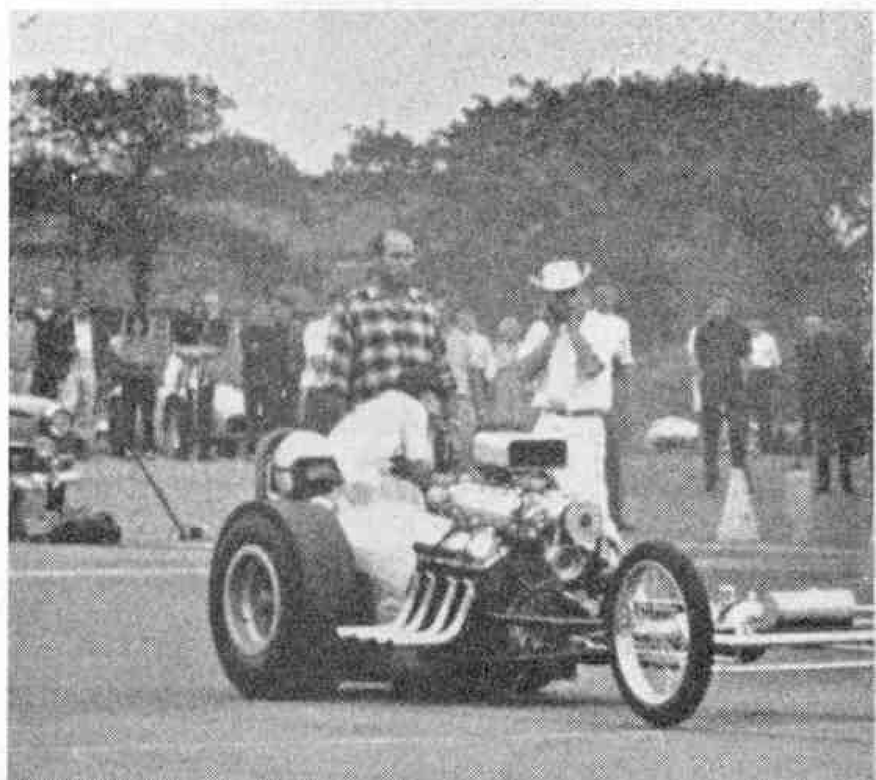
WITH THE starter's flag raised, a goggled driver snicks his lever into gear. Engine revs rise in a screaming crescendo, the ground vibrates from the roar of unleashed power; hastily an overalled mechanic gives the huge rear tyres a last minute wipe with an oily rag, while the driver holds the eager, trembling projectile on the handbrake. Down comes the flag. In goes the clutch . . . . wheels spin . . . . thick smoke pours off the spinning tyres and with the velocity of a shell from a gun, the dragster streaks up the course, leaving spectators gasping with astonishment at its incredible acceleration. That is drag racing, a new form of motor competition coming to England. In America it is the sport of speed kings from an early age, fastest man on wheels, 400 mph Craig Breedlove began by racing dragsters at the age of 16, another World's Land Speed Record contender, America's famous Mickey Thompson acquired his love of speed from drag racing. Up and down America there are drag strips, often no more than $\frac{1}{4}$ mile long, where the double ton-up boys pit their tuning and driving skill in stripped, lightened two seaters or high powered single seaters that are little more than chassis, wheels and engine. They only run for a few seconds, but what a few seconds motoring, for sheer excitement and exhilaration dragging is in a class by itself.

There are various forms of dragsters; some began life as ordinary production cars, but today you would hardly recognise them, they are chopped about, altered, modified, and fitted with all the latest aids to speed. In America, the favoured production V-8 engines are given special cylinder heads, fuel injection, superchargers, highlift cams, so that a once sedate 90 mph family saloon is made to hurtle across the drag strip at more than 200 mph. They do this regularly and, be it noted, most of the cars are impeccably turned out, all external steel parts being highly polished, for such aids to cleanliness are also aids to safety, as every part of the car is constantly checked over for cracks or fractures. Inside, the bores, ports and manifolds are just as highly finished, for these are real contributions to quick motoring.

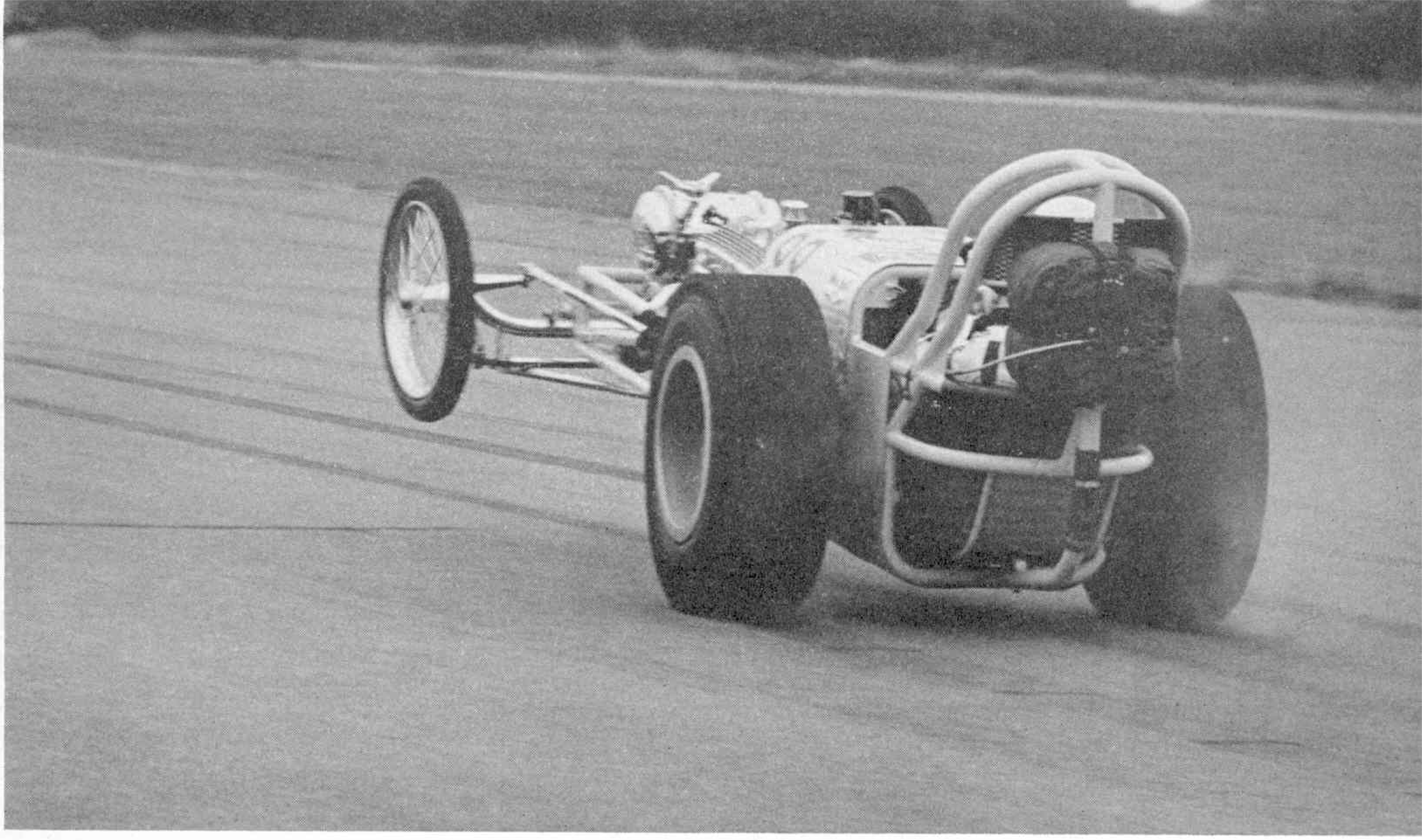
The fastest, most exciting dragster is of course the slingshot, a fierce looking racing vehicle developed exclusively in America. The driver, protected by anti-roll bars, sits right behind the two enormous rear wheels, with fat tyres of special, soft rubber, sometimes there is a sketchy attempt at body work, but more often there is none beyond the drivers' feet; ahead stretches a massive lightweight engine with short exhaust stubs each side, beyond is just chassis, a pair of spindly looking front wheels with no brakes and a small cylindrical exposed fuel tank, slung amidships to ensure even weight distribution. Careful weight distribution of every part is vital in these dragsters, especially in the powerful slingshots which sometimes top 399 mph.

They use rear tyres developed for drag racing with

3



4



1

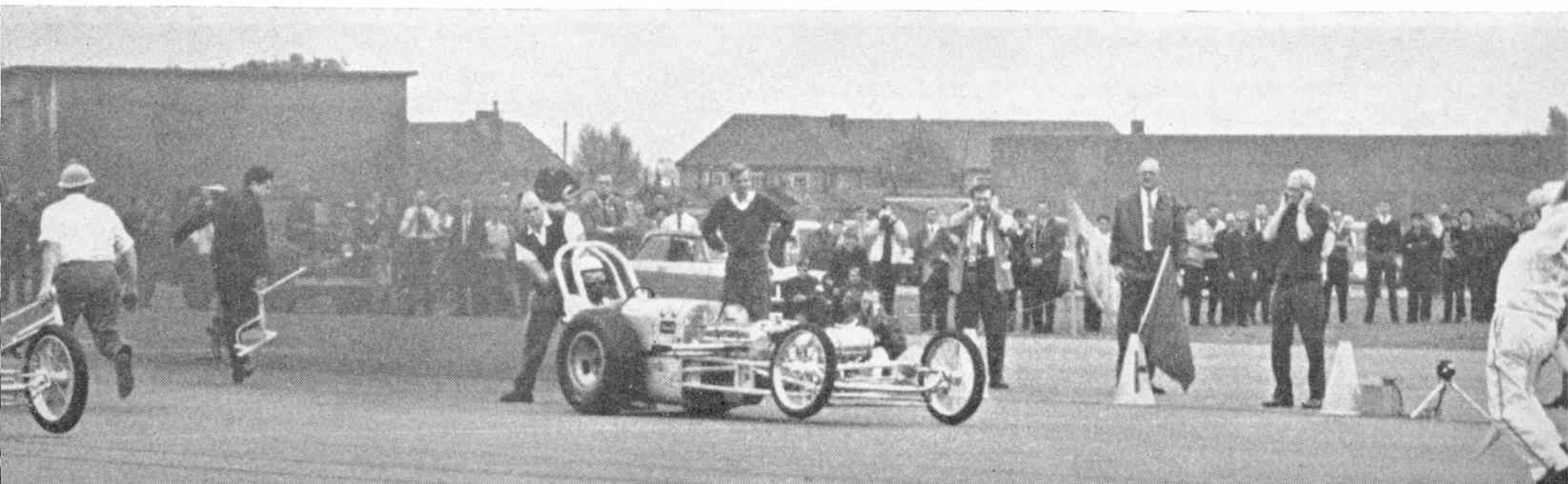
2

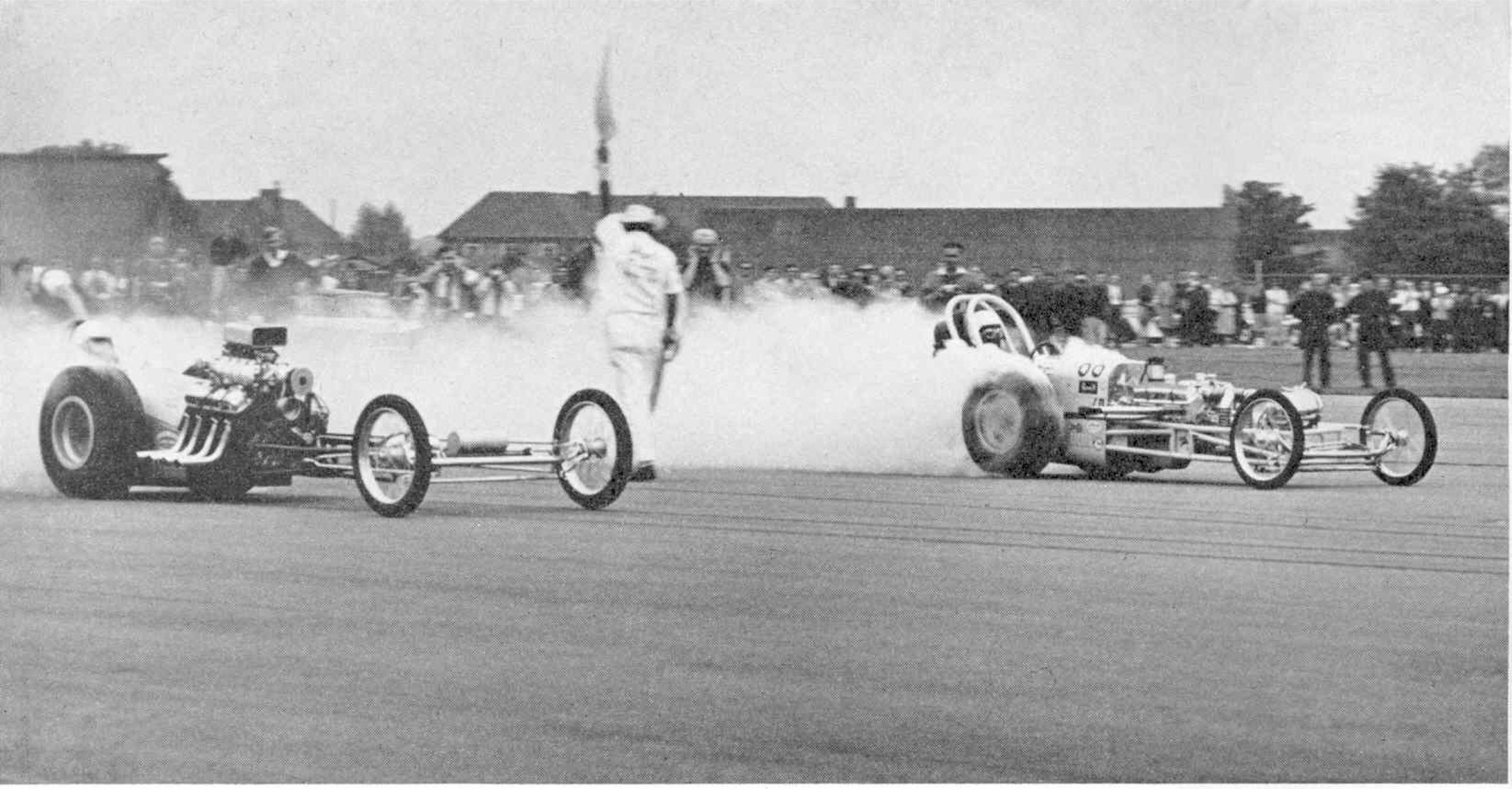
plenty of 'give' and this is the only branch of motor sport where the car must have wheelspin as it races away from the start line, without it the front wheels would rear up; so to induce more wheelspin, knowledgeable dragster mechanics wipe the wide section rear tyres with an oily rag at the start.

The enormous acceleration of slingshots is beyond the comprehension of the average motorist, some of these cars, able to cover $\frac{1}{4}$ mile from a standing start in nine seconds, cross the finishing line at speeds of over 170 mph, to give you an idea of enormous velocity involved, a standard Mini-Cooper will only attain a speed of about 40 mph in the same time.

The man responsible for introducing dragsters to Britain is Sidney Allard, onetime sports car manufacturer, a keen trials, racing and rally driver since prewar days. Through the Allard Owners' Club he is organising the first British International Drag Festival







At least ten American dragsters with engines developing between 600 and 1,000 bhp are scheduled to arrive in Britain in September, 1964, to compete in the First British International Drag Festival.

next September, provisional dates have been booked for five major meetings in September, beginning Sunday 13th at an air strip in Essex, the following Saturday, the 19th in the Chichester area, then on successive weekends the dragsters move towards Cheltenham then the North West Midlands and finally Yorkshire. A field of 26 cars and six motorcycles are being invited, they will include some of the fastest dragsters in the world.

Wally Parks, President of the National Hot Rod Association of America, has offered to fly over ten of the most exciting cars and three motorcycles straight from the National Championship Drag Races at Indianapolis, they will compete against dragsters now under construction in Britain, and possibly some from the continent. Sidney Allard built his first dragster in 1961, using a 5.7 litre supercharged V-8 Chrysler engine souped to push out 500 bhp; having seen this noisy car in action, I can vouch that dragging is a great sport for the modern generation and the sight of these cars racing against the clock will make younger motorists itch to get their fingers on a suitable mount. To give them encouragement, Sidney Allard is constructing a number of Dragster Dragons, built in the slingshot manner, powered by British built Ford Cortina GT 1½ litre five bearing engines, pressurised by large Shorrocks superchargers to develop 140 bhp. Total weight of Sidney Allard's supercharged Dragster Dragons will be under 5 cwt, giving a power weight ratio of about 550 bhp per ton. Sound to me like a good recipe for exciting motoring.

If you have a fancy for souped up road cars in saloon form, perhaps the MG 1100 will appeal. It is based on the Morris 1100 and has similar all-independent Hydrolastic suspension, but a good deal more 'go'. I found it good enough to reach a lively 89 mph and cruise with ample power in hand at 75 mph. Usefully spaced lower gears allow maximums of 27 mph, 49 and 73 mph; Acceleration is pretty good, taking 13 secs from 0 to 50 mph. Fuel consumption lies between 30 and 40 mpg. Uneven roads produce a slight bouncing motion, dry road cornering is exceptionally good, there is a tendency for the car to yaw a bit on wet or icy roads until one gets the hang of throttle control, but it is easy to handle when the going is slippery; I booted it really hard through a corner in second gear, the road was covered by thick layer of frozen snow, although the front end slid as expected, it was very quickly brought under control.

The modestly priced MG 1100 is one of the most desirable small saloons of this day, indeed many MG enthusiasts rate it as the first real successor to the old beloved ZB Magnette of five years ago.

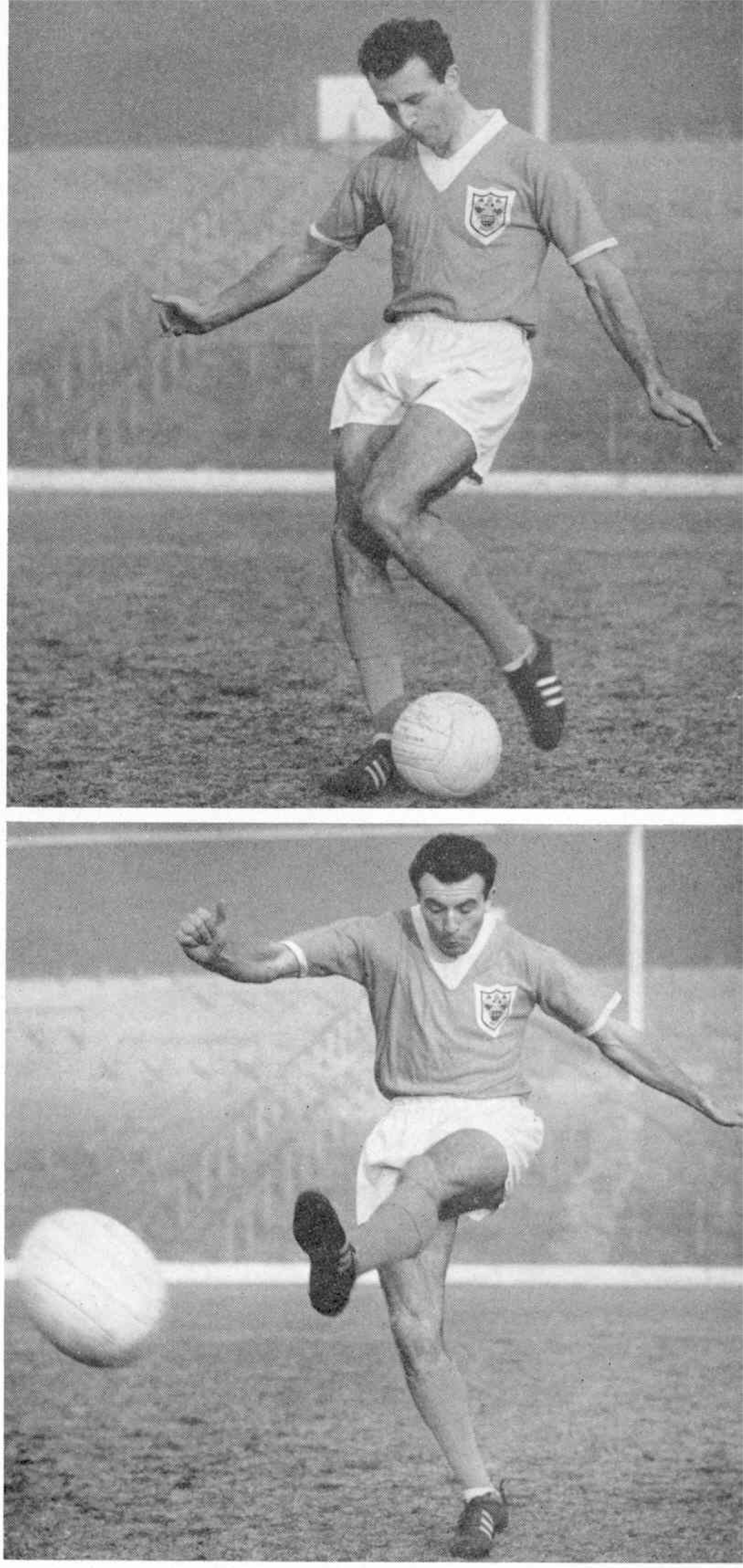


MG 1100. . . . with a good deal more 'go'.

by **Jimmy Armfield**

Soccer skills . . .

. . . shooting



MY FINAL lesson to you concerns one of the things we do so often in this game of football and yet, so many times, do it badly—that is, shooting.

Whenever I see a group of boys with a football, nine times out of ten they have erected a goal and are 'shooting in' at one goalkeeper. Most of the boys in Britain do this sort of thing, and yet I have often found that as they grow a little older they tend to tire of it and forsake it for other skills such as dribbling and trapping. But practice in this particular skill is tremendously important, for it teaches you to know 'where the goal is' without having to look up, and what is more important it teaches you not to lose your head in front of goal.

Whenever you have practice games among yourselves, make it one of the duties of the game to try to finish off every move correctly. After all, what good is the best build-up in the world if there is no finish after it? Whenever you find yourself in a shooting position, learn to try to hit the ball correctly near goal. What is more, give it everything you have, so that even if it is going straight to the goalkeeper he will still have the problem of fielding it cleanly. It takes a lot of practice to hit a ball well every time, and to make yourself into a Jimmy Greaves or a Denis Law you will have to work hard at it. Remember that such famous players not only practice kicking a stationary ball, they try hitting centres from both wings and run on to passes in front of them placed by colleagues. This is good practice for you and a few of your friends. One (a half back) could push the ball forward for the inside or centre-forward to run on to and shoot at goal. Then another (a winger) could flight balls from either wing for the forward to run on to and either volley or half volley at the goal.

If you look at the pictures, you will see that in picture 1 I am ready to shoot at goal. Note that my body is well over the ball and my non-kicking foot is alongside the ball so as to make sure it keeps low and does not go sailing into the air. In picture 2 I have really hit the ball hard and low and it is on its way goalwards. I want you to observe that my eyes are fixed on the ball all the time, and not on the goal. Notice, too, that I remain perfectly balanced (this has been helped by my arm movements) while I am actually striking the ball.

Apart from this I can only wish you well with your shots at goal. In reminding you of the other basic essentials I have taught you, let me add that no matter how many times you practise them, you will probably never become 100 per cent. perfect at them all. And that is what makes this game of football—there are many experts at it, but there has never yet been one player who could safely say he could do everything there is to do in the game perfectly.

by **David Bennett**

Harry H. Corbett **Junkman and dreamer**

Below: Harold has returned from a days 'totting' with his latest bargain—a clutch of coffins under the tarpaulin.

Opposite page, top: Harold the dreamer ponders on faraway places.

Opposite page bottom: Harold and Hercules fetch the old man home.



MORE THAN twenty million people tune in on BBC Television to a world full of old gas stoves, second-hand bedsteads, broken tennis rackets and other assorted rubbish. A world that overflows from the junk-yard into the home, for the house too is cluttered with an exotic conglomeration of useless bric-a-brac from a stuffed bear to a glass-covered collection of mid-European moths, from an 1819 vintage tuba to a set of bagpipes. The world in question belongs, of course, to the most celebrated of all junk dealers, the famous firm of television 'totters', Steptoe and Son.

Leading light of this world is Harold Steptoe whose daydreams and restless desire to better himself contrast sharply with the dreariness of his daily round. This begins when Harold, his cap set at a jaunty angle, scarf knotted in the special rag-and-bone man fashion and spring scales dangling from his belt, rouses Hercules, the horse, from his bed of straw to start the tramp round the suburban streets. It is a day that usually ends with Harold returning to the yard with what Albert, his cunning father, rightly calls 'a load of old rubbish.'

Harold is discontented with his daily life and in this respect comes into constant conflict with his father who is in his element pottering round the yard sorting out the junk. He feels, with a degree of bitterness, that the old man is holding him back and, indeed, a recent episode—'A Home Fit for Heroes'—saw Harold trying to dispose of his father by sending him to an old people's home. His plan was to sell up everything: the yard, the house, the junk, the cart and even the faithful Hercules. He was then going to join a party of young people to sail around the world. But like most of Harold's ventures, it all fell through and Albert, not without a sparkle of triumph in his eyes, was brought back from the home and life continued in its usual quarrelsome way.

The part of Harold is brilliantly played by Harry H. Corbett who sees the character he plays in the following terms: 'He has his dreams all day, and so do we; it's in all of us and we never lose it. He's a man in the grip of

that terrifying dilemma—how long do you stand by your duties and let life slip away from you?'

Acting alongside Harry Corbett as Albert Steptoe is Wilfrid Brambell. 'The Steptoes are real to us,' says Harry; 'and because like all human beings they're so complex, we'll never be able to say we've fully explored them. All we can do is take snippets and present them one at a time—touching on certain facets of character, giving clues which different people will see in a different light, as they always do when assessing other people. I don't tell my friends about the Steptoes; they tell me.'

Harry Corbett was born in Rangoon where his father was in the Army. But at the age of two his mother died and as a result he was sent to England, to Manchester, where he was brought up by his aunt. At the age of 17½ he joined the Royal Marines. When the war was finished he wanted to become a radiographer but was not able to complete his studies because of lack of money.

In 1949 Harry was launched, not on the stage, but behind it—as lighting assistant and stage manager for the Chorlton Repertory Company in Manchester. In 1951, he joined the famous experimental group Theatre Workshop.

It was as Harold Steptoe that Harry Corbett became nationally famous and, indeed, in 1962, the year the





Home comforts among the junk—All mod. cons. Harold decides to instal a luxury contemporary bathroom.

series started, he won an award from the Guild of Television Producers and Directors as actor of the year. But long before the Steptoe and Son programmes he had a solid reputation for his acting in films, on television and in the theatre and for his work with Theatre Workshop.

Harry's first opportunity of appearing on television came from the BBC when he was chosen to play in a musical playlet called 'The Girl' by Wolf Mankowitz and also a magnificent old melodrama called 'Hole in the Wall'. Since then he has worked regularly for the BBC. But he was performing in the theatre, as Macbeth at the Bristol Old Vic, when he was first offered the part of Harold Steptoe.

Alan Simpson and Ray Galton, two writers with an uncanny eye and ear for what lies behind the commonplace, were writing programmes in the 'Comedy Playhouse' series when they hit on the idea of investigating the junk man's world and in so doing tapped a rich, warmly human vein of comedy material. So the part of Harold Steptoe was duly created and Harry Corbett consequently made his appearance in that role in 'The Offer'. The programme was an immediate hit—a gem of comedy writing and brilliantly acted. Simpson and Galton were asked to write further episodes and the saga of Steptoe and Son was well under way. The story goes that during this first series, Harry was developing the character of Harold so effectively that while wandering down a corridor in the Television Centre during a break in rehearsals, he was spotted as a suspicious type and almost thrown out.

'Triumphant' is hardly the right word to use when describing the goings-on of the Steptoe family, by the very nature of things. Nevertheless, they came 'triumphantly' into 1964 by trundling immediately to the top of the television programme popularity charts. What exactly is it that makes millions of viewers tune into the Steptoe household every week? The world of Harold and Albert is side-splittingly funny, but it is as often sad. It can bring to the eyes tears of laughter, but it can as often bring tears of pity. Perhaps that is where the answer lies. In Harry Corbett's words—and he should know: 'It's a marriage of light entertainment and drama, it's tragi-comedy—and that's life.'

mailbag

Anything interesting . . . write about it to the editor

■ *RAILCAR MODEL*—I was most interested in the cover of your January issue, which showed the diesel railcars purchased by the Isle of Man Railways from the County Donegal system.

During a holiday on the island last year I collected details of stations and rolling stock, and am now making a model of this unique narrow gauge system. In 4 mm scale (as Hornby-Dublo) a 3 ft gauge line can be accurately based on standard TT-gauge materials.

Though the coaches and station buildings are fairly easy to build from card and wood, I decided the railcars would look better with metal bodies. I therefore ordered two models from a Leeds firm who are now making a trailer so I can run the cars back-to-back as in your picture, sandwiching a goods van between.

Michael Farr, Stoke Bishop, Bristol

■ *SABRE TUG*—The Manchester Ship Canal Company has a fleet of 35 tugs. These operate between Eastham Locks and the Port of Manchester and their duties vary from the towing of ships through the canal to the towing of barges. The M.S.C. Sabre is one of the most powerful in the fleet. She was built in 1956 and has a gross tonnage of 147. She is easily recognised because she has no funnel, but has twin exhaust pipes integral with the mast. When I saw her she was towing the Norwegian tanker Hurricane.

W. Oxford, Ellesmere Port, Wirral

1



2



■ *DOG IN CHAINS*—On the northern slopes of the Quantock Hills, at the Somerset village of Holford, there is one of the few remaining Dog Pounds. (1)

Built of local stone, it is square in shape and has a narrow entrance where there was once a door. A medallion set in the stonework depicts a heavily-chained dog. The Public Health Act of 1875 gave urban councils the power to impound stray animals but the council were obliged to provide them with food and water. Penalties were imposed on the owners and in default of payment the animal was sold and, after deduction of the penalty, the balance was paid to the owner.

E. Barnard, Taunton

■ *STAGE-COACH*—During my holiday in September, I travelled by train from Uttoxeter to Sudbury (Derbyshire).

Leaving Sudbury station I saw a beautiful preserved stage-coach, which stands outside the Boars Head hotel. On examination I found that this was named Kestrel and was restored by R. H. Drew of Birmingham. I was told that this carried the mails from Stoke-on-Trent to Barrett's Pool. My informant, unfortunately, could not tell me when this coach was originally built, so perhaps a local reader of the *Meccano Magazine* could help me on this. (2)

J. A. Fleming, London, N.W.3.

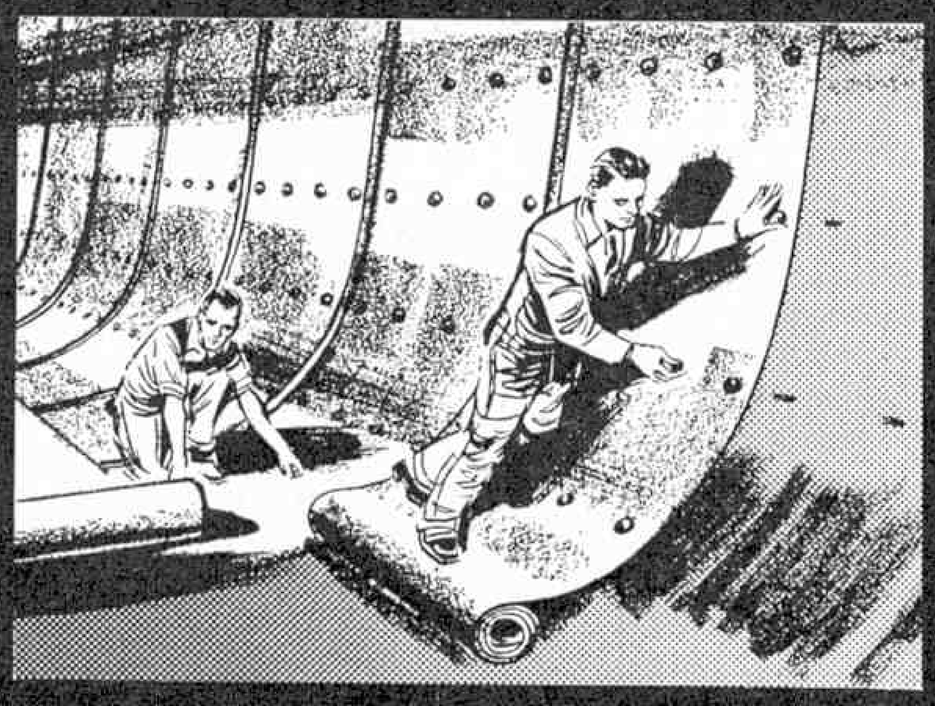
■ *KOALAS*—At Lone Pine, a Brisbane suburb, there is a sanctuary for Koalas (native bears) to live in peace and from the fear of extinction. These lovely, cuddlesome creatures were nearly extinct some years back and this home was set up for them to multiply and provide a place where they can readily be seen. The sanctuary is at a bend in the Brisbane River with acres of trees for food. It started with only a few bears but now the numbers have risen exceptionally fast and many have been released to an enclosed paddock to roam in a semi-wild state. Koalas eat only a certain kind of gum leaf and for quite some time it was a big problem to get food for them.

An interesting feature is that their name 'Koala' is aboriginal and means 'no drink'. They do not drink water but get sufficient moisture from the leaves.

The sanctuary also houses many other animals and many varieties of birds.

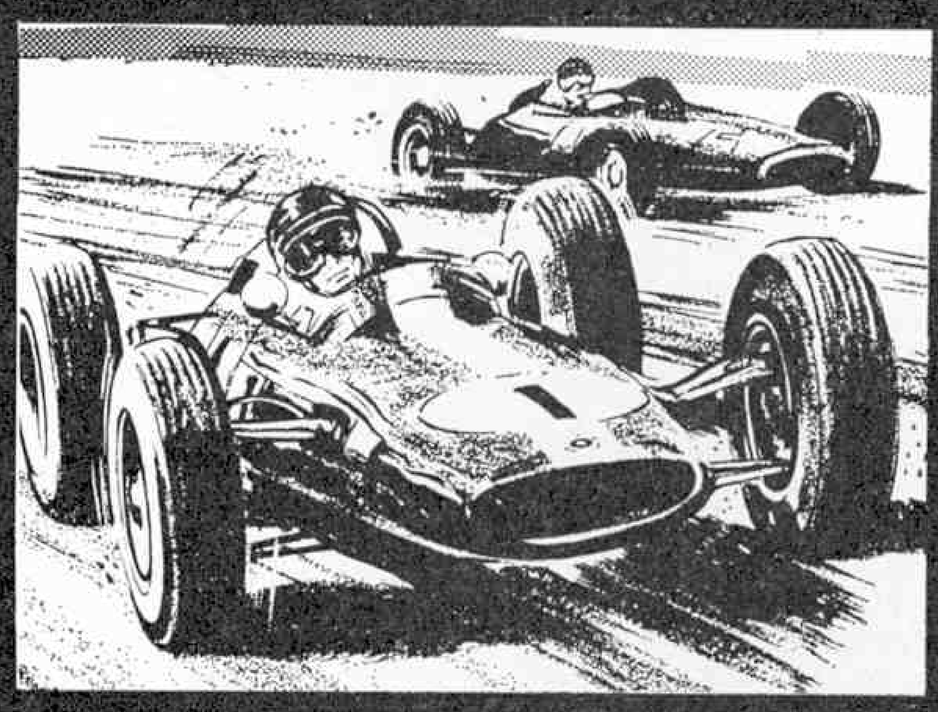
Lyn Smith, Brisbane

well! WHAT D'YOU KNOW...



WATERTIGHT ARGUMENT

Nothing beats rubber for making things watertight. That's what the Sunderland & South Shields Water Company decided when it came to repairing their badly cracked 12-million-gallon reservoir. They called in the Dunlop Plant Lining Division who lined the whole 3 acres of surface—using 75 tons of sheet rubber and vulcanised panels. This made it unnecessary to build a new reservoir, which would have cost £500,000.



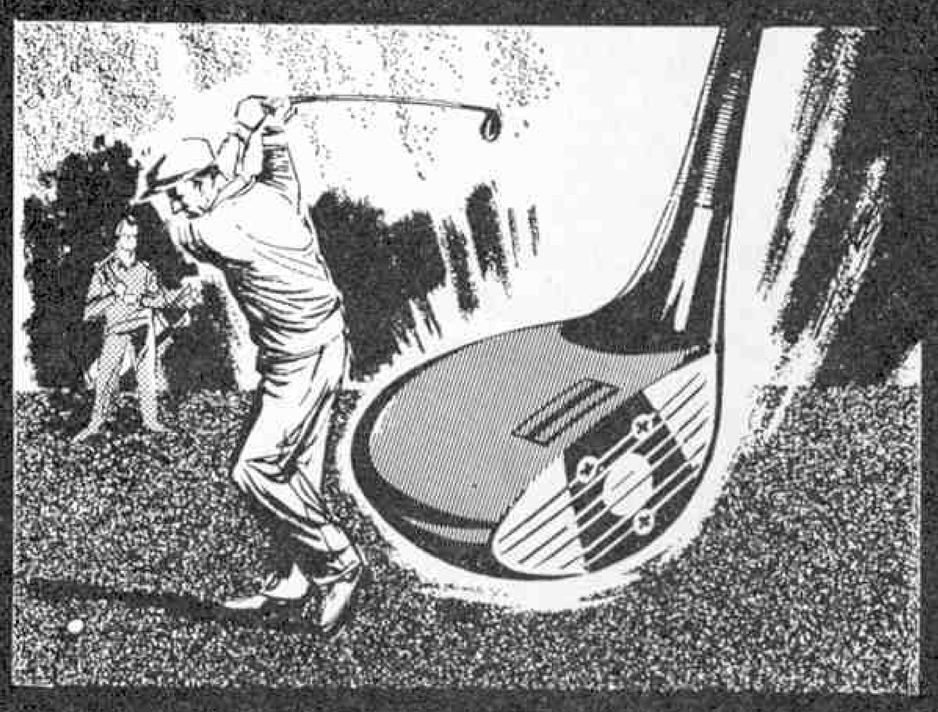
RACE TRACK "FLYING SCOTSMAN"

There's long been a "Flying Scotsman" on British Railways, and now there's another—even faster—on the motor racing tracks. For that's what they call Jim Clark, who became World Champion Grand Prix Driver last September when he was only 27 years old. Like the cars of all Grand Prix winners over the last five years, Jim Clark's fantastic Lotus 25 was equipped with Dunlop tyres.



RUBBER "BALLOON" SEALS MINE TUNNELS

Dunlop have developed a new safety device for coal mines. This is a large rubber/nylon bag covered with Terylene netting. In an emergency it is placed in the mine tunnel, inflated with nitrogen and filled with 21 tons of water, forming a solid "wall" which prevents the spread of fumes and lessens the force of explosion. Should it burst, the water spray helps to extinguish the flames.



DUNLOP MAKES GREATER IMPACT

Dunlop Sports Company recently introduced a new range of golf clubs called "Powerpoint". These were designed in consultation with Arnold Palmer, the world's top golfer, who used them in winning last year's Australian Masters' Tournament. The clubs are called "Powerpoint" because they have a specially weighted impact area, marked by a gold point, which helps players to hit the ball with greater force and accuracy.

DUNLOP

SYMBOL OF PROGRESS

CFH/PR4/4

by **John Crossman**



Rainbow trout taken by a fly fisherman from Pitsford Reservoir, Northamptonshire.

Down by the riverside

Our angling expert, John Crossman, of The Angling Times, *writes this introductory article for young fishermen, but asks us to tell you that the real way to learn is first-hand from other anglers, from fathers and uncles and elder brothers, and from tackle dealers. And, of course, the best place of all to learn about fish and fishing, is on the spot, down by the riverside.*

AGE AND wealth are of little account in the sport of angling, and this is one of the reasons for its popularity. A good angler may be a teenager or a pensioner, a dustman or a millionaire. Sportsmanship and the ability to catch fish are the qualities that matter most.

In this new series of articles I shall try to help boys become all-round anglers. By this I mean anglers who are able to adapt their methods to suit different kinds of fish and widely varying waters.

There are anglers who specialise in catching one kind of fish alone, but the young angler will miss a lot of fun—and the chance of adding to his general angling knowledge—if early in his career he aims to become a 'one-fish' man.

Anglers who fish only for 'coarse fish'—the general name for freshwater fish with the exception of trout and salmon—have to store their tackle in the spring. Between March 14 and June 16 is the coarse fishing 'close season', a period when coarse fish in nearly all British waters are protected by law so that they can spawn without interference.

Fortunately for anglers, trout and salmon spawn in late autumn and the winter, so they are protected by a different close season. Both trout and salmon are known as 'game fish', and the fishing seasons for them are now in full swing.

I will say nothing about ways of catching salmon because in many parts of the country salmon fishing is not available. Fish cannot survive in water that is very dirty, and many river estuaries—particularly some along the East coast of England—are polluted by industrial chemical waste and domestic sewage. This means that salmon cannot travel to and from the sea.

Happily, trout waters are much more widespread, but before suggesting where and how you should fish for trout I must refer briefly to fishing licences and permits. Licences are not normally needed by anglers aged under 15, but before going fishing it is wise to call at your local tackle shop and ask if you can READ a licence to see if there are any special rules relating to trout fishing. In different parts of the country the close season for trout varies. In most areas it is between September 30 and March 1. The dates will be printed on the appropriate river licence, and probably there will be other useful information.

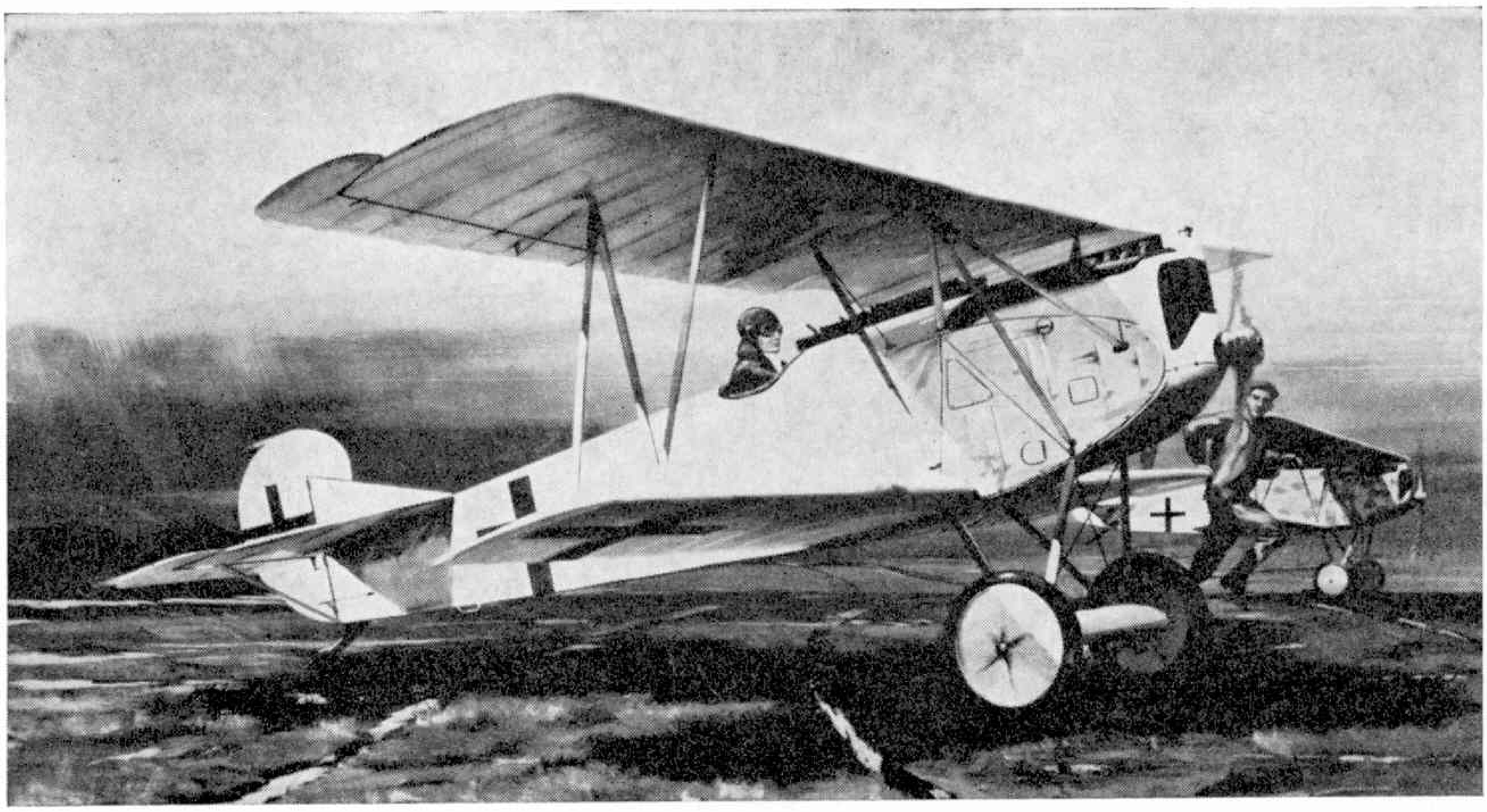
Find out, too, who owns the fishing rights for the water you plan to visit. It may be a farmer, a fishing club, or the local town council—the tackle dealer will probably know. There's little sense in cycling miles to a river only to discover that the fishing is private.

The small hill streams of Scotland and Wales are a good 'training ground' for trout fishing. The fish, though sometimes small, are numerous, and in many cases the fishing has the added merit of being free. In England it is more difficult to find inexpensive trout fishing, but here and there about the countryside are small streams which hold trout, even though few people bother to fish for them. Neglected waters, where trees and bushes tangle the banks, are often worth exploring.

An angler stoops to net a trout in a tributary stream of the River Usk, an excellent trout and salmon water.



great new models hit the Revell Kit Parade



World War 1 aeroplanes 2/- each

Once again, Revell parade all the tops in plastic model kits. This week the chart is filled entirely with 'new releases', including a wonderful series of three World War I aeroplanes, excitingly authentic in detail and great fun to make. Make for yourself—Nieuport 17c, Fokker D.VII, S.E. 5a,—the planes that the great aces of World War I flew. They're all just 2/- each, in colourful boxes with thrilling, action-picture tops.

Revell 2/- Kit Parade

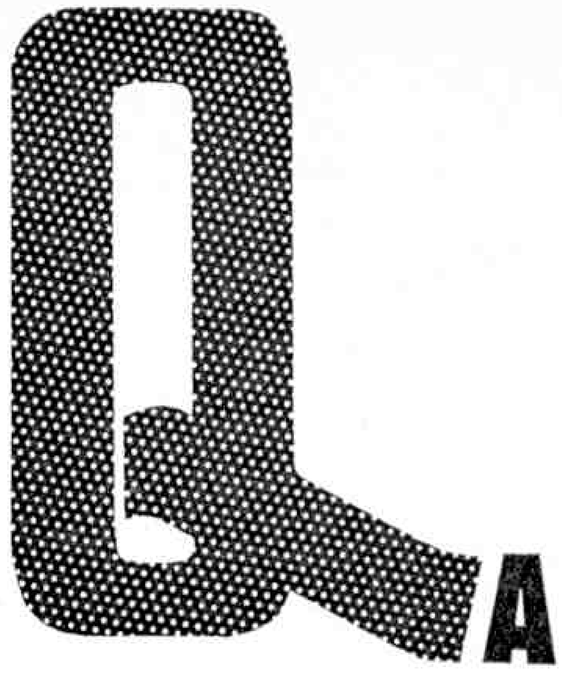
Available now:
Nieuport 17c
Fokker D.VII
S.E. 5a

There are other new releases and many more top pop Revell Kits at prices from 2/11d. Take your pick wherever you see Revell Kits on parade.

Revell
Authentic Kits

REVELL (GT. BRITAIN) LTD., MAIDSTONE HOUSE, 25/27 BERNERS STREET, LONDON, W.1.

what's your problem?



Have you a problem—in science, history, literature or any other subject—to which you cannot find the answer?
Ask Tom Sheridan and he will do his best to answer it. If he cannot, and he thinks one of our readers might be able to help, he will print your query in this feature. Questions should be sent on postcards bearing your full name and address (but these will not be published if you put them in brackets and just add your initials or a pen name). Address them to Tom Sheridan, *Meccano Magazine*, Thomas Skinner and Co. (Publishers) Ltd., St. Alphage House, Fore Street, London, E.C.2.
You may submit as many questions as you like. We will deal with as many as possible each issue.

Tilting tower

Q. *How long will it be before the leaning tower of Pisa topples over?—T. H. Millington, Rugeley.*

A. The famous 178 ft tower is now 12 ft out of the perpendicular; and if its slant increases at the rate which it has done for the past 50 years, it may not fall over for another century or more. But soil subsidence may hasten the process; and according to Professor Gustavo Colonnetti, it will not be long before it falls—unless something is done to prevent it. He wants to encase the 14,000-ton tower in a steel jacket and lift it on hawsers while new foundations are laid under it.
The building of the tower was started in 1173, and it had started to tilt before it was finished in 1300. Since 1900 nine commissions have been set up to consider how to put matters right, but little has been done to save the tower's gradual decline.

Big count

Q. *What exactly is a billion?—'Doubtful', Leeds.*

A. In this country it is a million millions (1,000,000,000,000), but in France and America it is only a thousand millions (1,000,000,000).

Incidentally, if a man could live long enough to count an English billion at the rate of 200 a minute for 12 hours a day, it would take him about 19,000 years.

Shortening day

Q. *Is it true that the period of the Earth's rotation is getting shorter every day?—L. R., Wolverhampton.*

A. Yes—by nearly two-thousands of a second! Though this can hardly affect most people's daily routine, it is quite important to astronomers, space navigators, and others depending on highly precise calculations where a tenth of a second can make a great difference.
The minute variations in the time the Earth takes to turn on its axis have only been detected since the introduction of atomic clocks, which work by atomic vibration and radio waves, and are so accurate that they gain or lose the equivalent of a second in something like 3,000 years. What causes the variations is still not clear, but they are believed to have something to do with the effect of the Earth's molten core on the rotation of the outer crust, and the movement of its land-masses.

Devil on sticks

Q. *How was the game of diabolo played —and when?—K. S., Wisbech.*

A. Diabolo, or 'The devil on two sticks,' was popular with children about 60 years ago. It consisted of a string attached to two sticks held in the hand and manipulated so that a wooden object like a double cone was made to spin in the air. It was something like an earlier version of yo-yo.

Forty years old

Q. *When did the first crossword puzzles appear in this country?—'Addict', Wembley.*

A. The first one appeared in a Sunday newspaper on November 2, 1924. Eleven years earlier, a New York paper published the world's first crossword puzzle, which had been compiled by Arthur Wynne, an emigrant from Liverpool.

Time-travel classic

Q. *Where can I find a story by H. G. Wells called 'The Chronic Argonauts'?—'Wellsian,' Brighton.*

A. This is an earlier version of Wells' famous tale, *The Time Machine*, which launched him on his writing career. It was written in 1887, soon after he left the Royal College of Science and was serialised in the *Science Schools Journal*, the students' magazine which he had helped to found. But it was never finished, even in manuscript. In his autobiography, the author wrote: 'I broke this off after three instalments because I could not go on with it.'
Wells later admitted that he got the idea for the story out of a discussion at the college debating society. He wrote two more versions before the completed story with its new title appeared in 1895 as a serial in *The New Review*. The original version may be found reprinted in the book by Bernard Bergonzi, *The Early H. G. Wells* (Manchester University Press, 1961).

Rewarding hobby

Q. *Can you recommend a cheap book which will tell me something about numismatics?—S. W. Gooch, Newcastle.*

A. *Collecting Coins*, by Frank Purvey, recently published at 4s. in the Foyle's Handbook series, will give you an insight into the development of the hobby and tell you how to go about collecting English coins in particular.

Crazy comic

Q. *What is Danny Kaye's real name, and how long has he been in films?—'Kayestruck', Winchester.*

A. Born in Brooklyn on January 18, 1913, as David Daniel Kominsky, Danny Kaye first showed his zany genius to the world 20 years ago in the film, *Up in Arms*. His success led to *Wonder Man*, *The Kid from Brooklyn*, *The Secret Life of Walter Mitty*, *The Court Jester*, and other favourites. He made a tremendous hit when he appeared at the London Palladium, proving popular with the Royal Family. His wife, Sylvia Fine, writes the lyrics for his songs.

Danny Kaye makes faces for Patricia Cutts in the Metro-Goldwyn-Mayer film 'Merry Andrew'



Let's put you in

Boxing cleverly

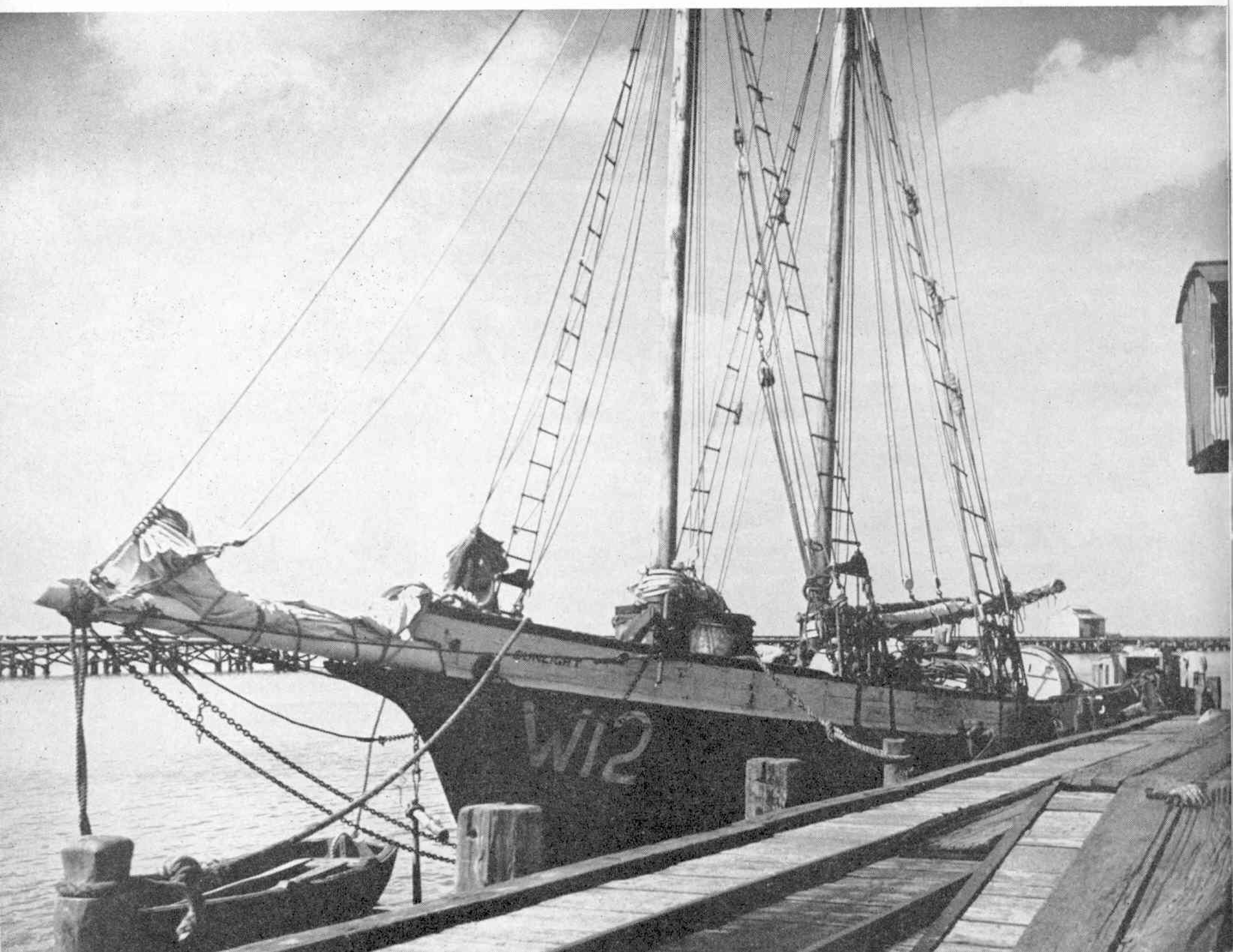
The Editor of Amateur Photographer, *R. H. Mason, F.I.B.P., F.R.P.S., says, in the first of a new series of articles, that it isn't the camera, but the man behind it, who makes the picture. Follow his four basic rules of photography and you too, will be able to take fine photographs with a simple box camera.*

YOU WANT to take pictures? If so, you'll want to take good pictures, because the blurred or dull photograph will certainly win no prizes, and will not even help much to remind you of faces and places you wish to remember. Maybe you'll be thinking: 'If only I had a good camera . . . .' and you'll start trying to beg enough money to buy some swish job you've seen in a shop or a catalogue. Don't worry. You can take great pictures with a simple box camera if only you learn and follow four basic rules.

These are the rules for good photography.

- Make sure to estimate your exposure correctly.
- See that you have the right lighting conditions.
- Watch for movement—make sure that your shutter speed will not show movement as a blur. Most cameras with one speed only take at about a sixtieth of a second so if your camera is one of these, take your picture when the action slows down, or take it at an angle which reduces the speed in relation to the camera.
- Make sure you have an interesting subject with good composition, so try several viewpoints before deciding

R. H. Mason took this photograph of a Caribbean coasting schooner with a box camera.



the picture

which is the right one. Get a good background in order to help show off your subject.

Maybe you are lucky and your camera is one of those with a focusing lens. In that case, here is one more rule —focus the main subject accurately. You will find that most simple, inexpensive cameras have a fixed focus, and as long as you do not move closer than about six feet, your picture will be sharp.

Remember—whatever type of photograph you are taking —portraits or landscapes—these rules always apply.

Expensive cameras have larger lenses, and these enable them to work under poor light conditions. They also give better definition, so you can make bigger enlargements. Faster shutter speeds on expensive cameras mean, of course, that you can take pictures of faster moving subjects, but even these can be successfully caught by a simple box camera in the right hands.

Now, about that first rule I gave you—estimating exposure. This is simple because most films are made to give plenty of allowance for light and dark in the picture. However, if the subject has much contrast you will have to take greater care. Manufacturers give a guide with every packet of film, so follow this if you have no exposure meter.

For summer use, a medium speed film like Verichrome or Selochrome is best, but in the winter I recommend Tri-X or H.P.3, which compensate for the duller light. Next month, I'll say more about those other golden rules.

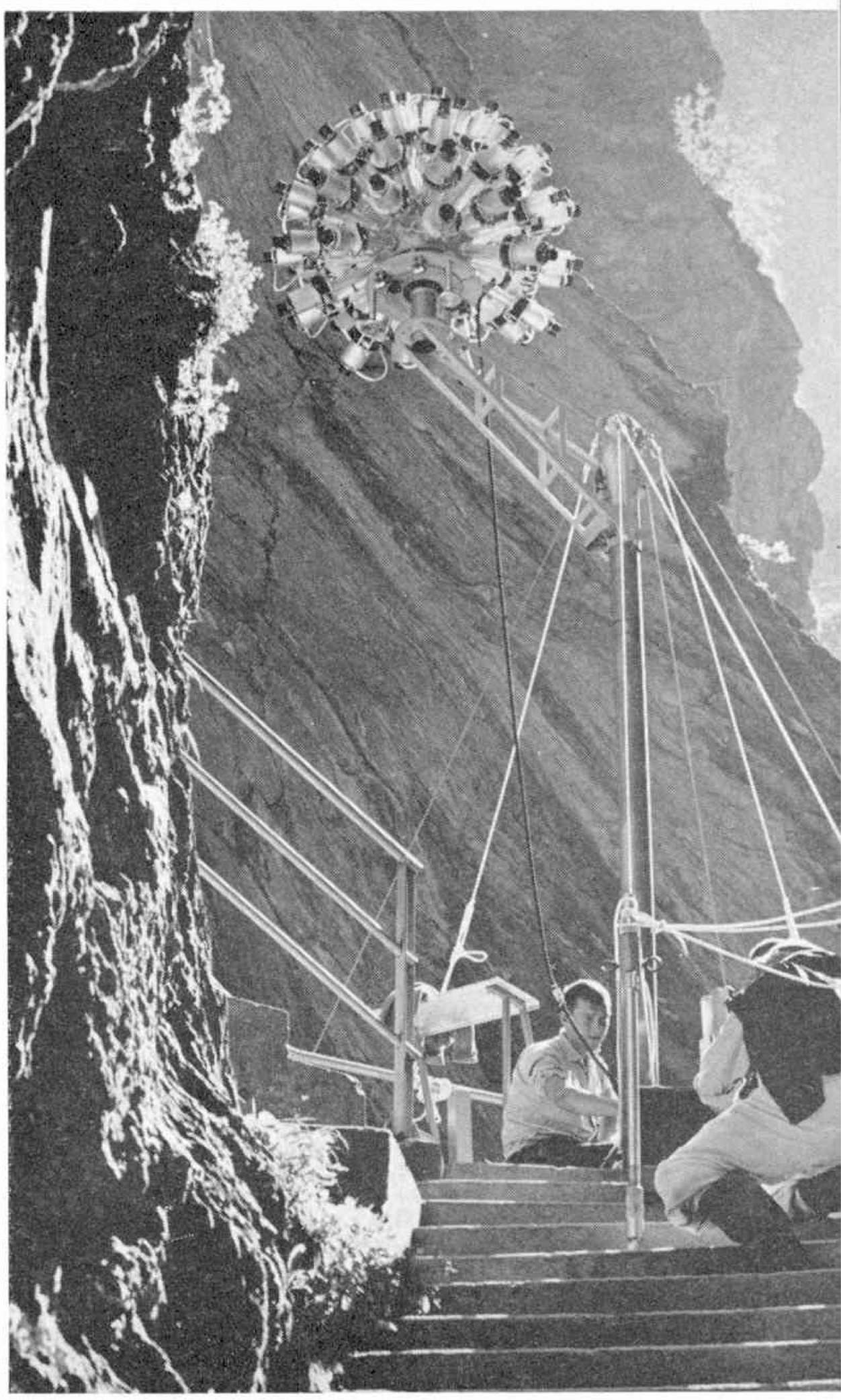
The other end of the line

THE SWISS have developed a revolutionary camera which has 57 lenses—and looks like a giant metallic hedgehog on stilts.

The result is an entirely new photographic process, which is to be unveiled to the public this Spring.

Every time the trigger of the camera is pressed, 57 colour photographs are taken simultaneously. These are then projected on to a dome-shaped screen which reproduces the scene in its entirety, from horizon to horizon, taking in every detail of the landscape and the sky above.

Commissioned by the Swiss National Tourist Office, the first of the new cameras is now on a tour of Switzerland, taking 360-degree panoramic shots of the country's most famous beauty spots. These are to form the highlights of a novel presentation to be given in the Holiday Pavilion of the Swiss National Exhibition, which opens in Lausanne in April.



On the screen, which completely surrounds the audience, the scene is re-created by means of 57 projectors, each illuminating a hexagon-shaped area of about 15 square yards. A fully-automatic remote-control system permits all 57 slides to be changed at once, or for individual groups of slides to be screened in sequence.

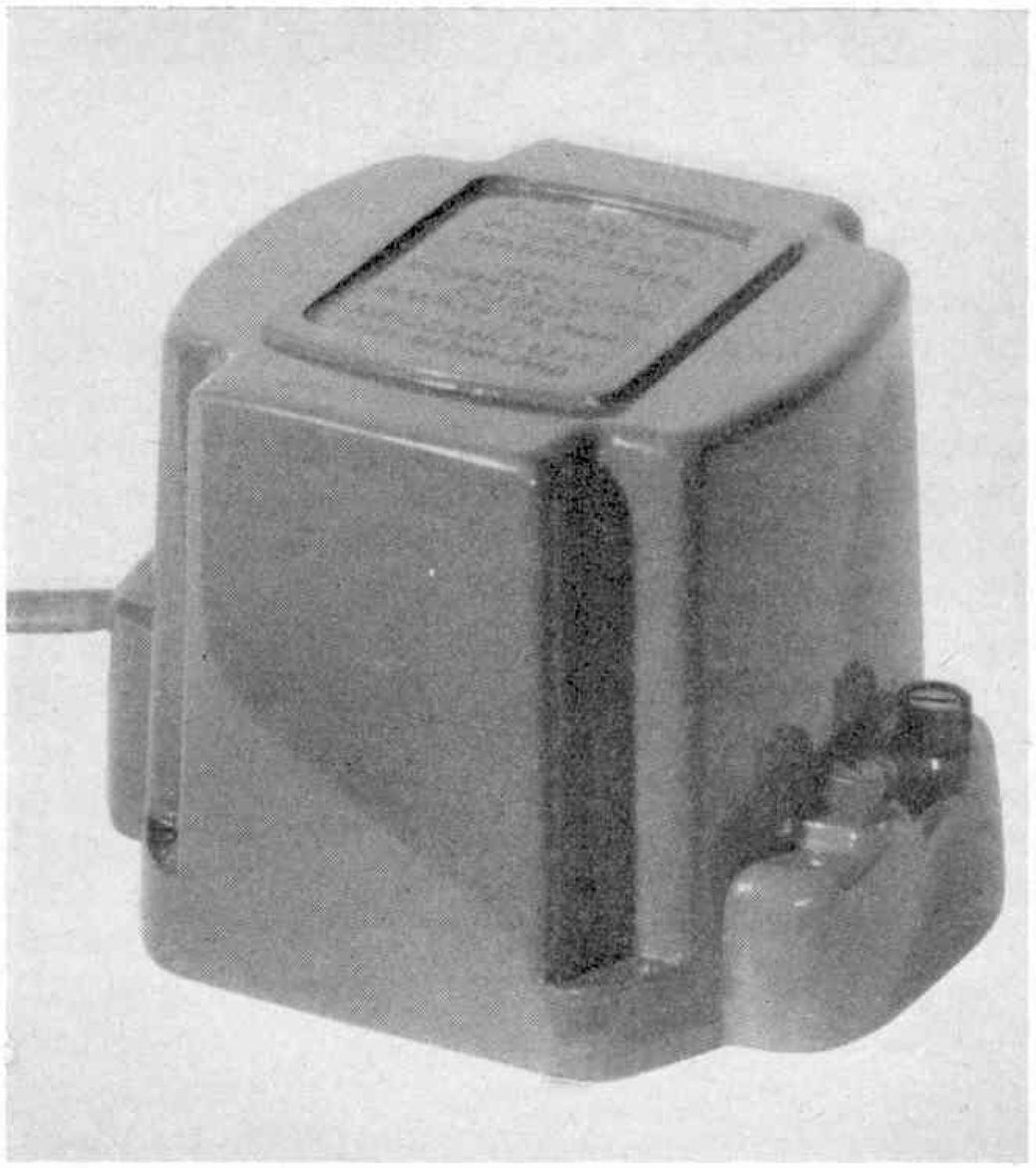
Another novelty for visitors to the Exhibition will be Walt Disney's 'Circarama', an invention which uses nine projectors to screen a 360-degree picture 21 ft in height.

Above: Hemmed in by near-perpendicular rocks and high above the rushing Rhine, the remarkable camera goes into action in the gorge of the Via Mala, in Switzerland's canton of the Grisons. The panoramic scenes it captures will have their first public showing at the Swiss National Exhibition, opening in Lausanne in April.

what's new around the shop windows

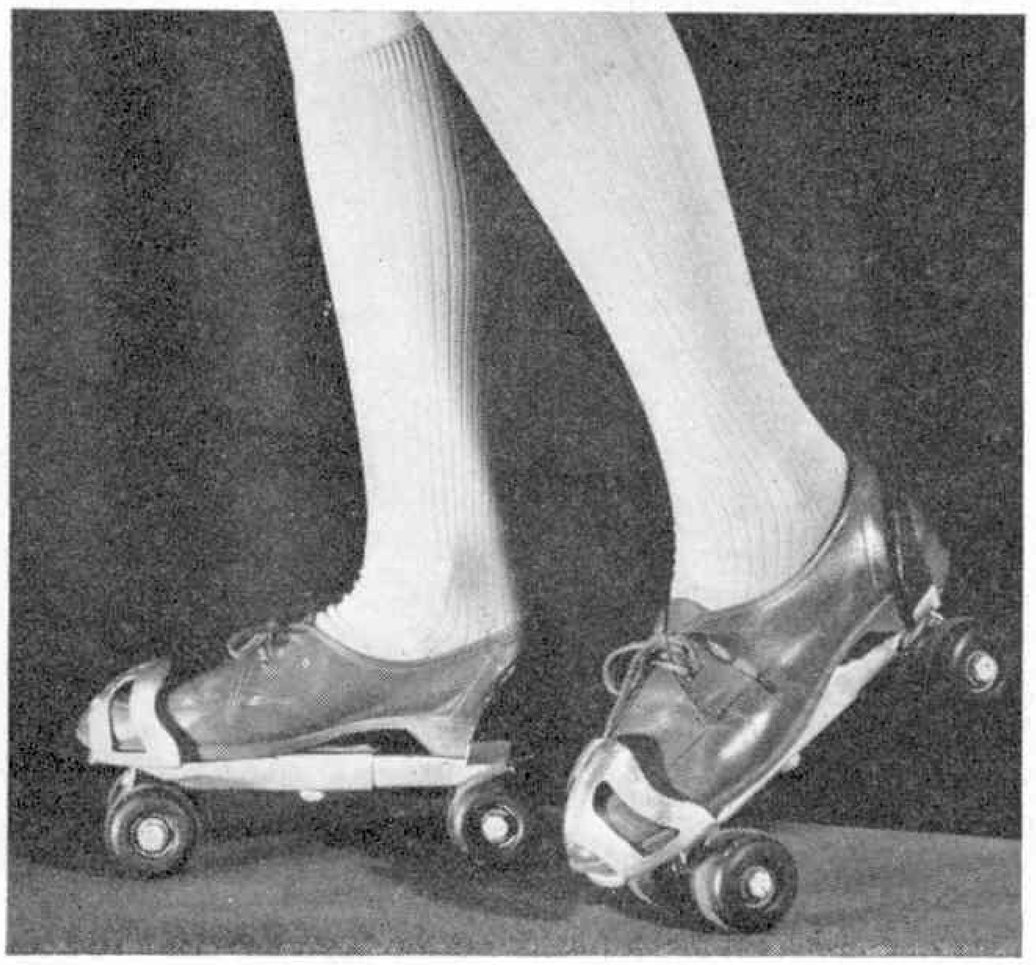
A basic kit from Philips Electrical Ltd., from which at least eight different applications can be built costs **£4 19s. 11d.** The range of applications can be extended to over 20 with an 'add-on' kit, A20, which is to sell at **£3 9s. 6d.** All these possibilities are listed and can be built by following the instructions in the book supplied, but for the boy with a leaning towards experimenting the variety of applications he can create is almost endless.
The engineer with an interest in music can build his own electronic organ, with a range of one octave, and by careful tuning it can be adjusted from high to low register. Alternatively he can construct an audio amplifier for microphone and gramophone reproduction. Using this it is possible to speak through the microphone over the music from the record.
The range of eight applications for which construction details are given in the booklet include a one transistor radio, a two transistor radio, which can be used for direction finding, a simple gramophone amplifier, a morse code oscillator, a light sensitive burglar alarm, a traffic beacon, an automatic night light and a humidity indicator. The illustration shows an amplifier for a gramophone with an individual earpiece attachment is one of the eight basic applications which can be constructed from the Philips EE8 Electronic Engineer kit. An extension kit, A-20, increases the range of applications by at least 13, but boys with an interest in electronics can develop extensions to these applications.



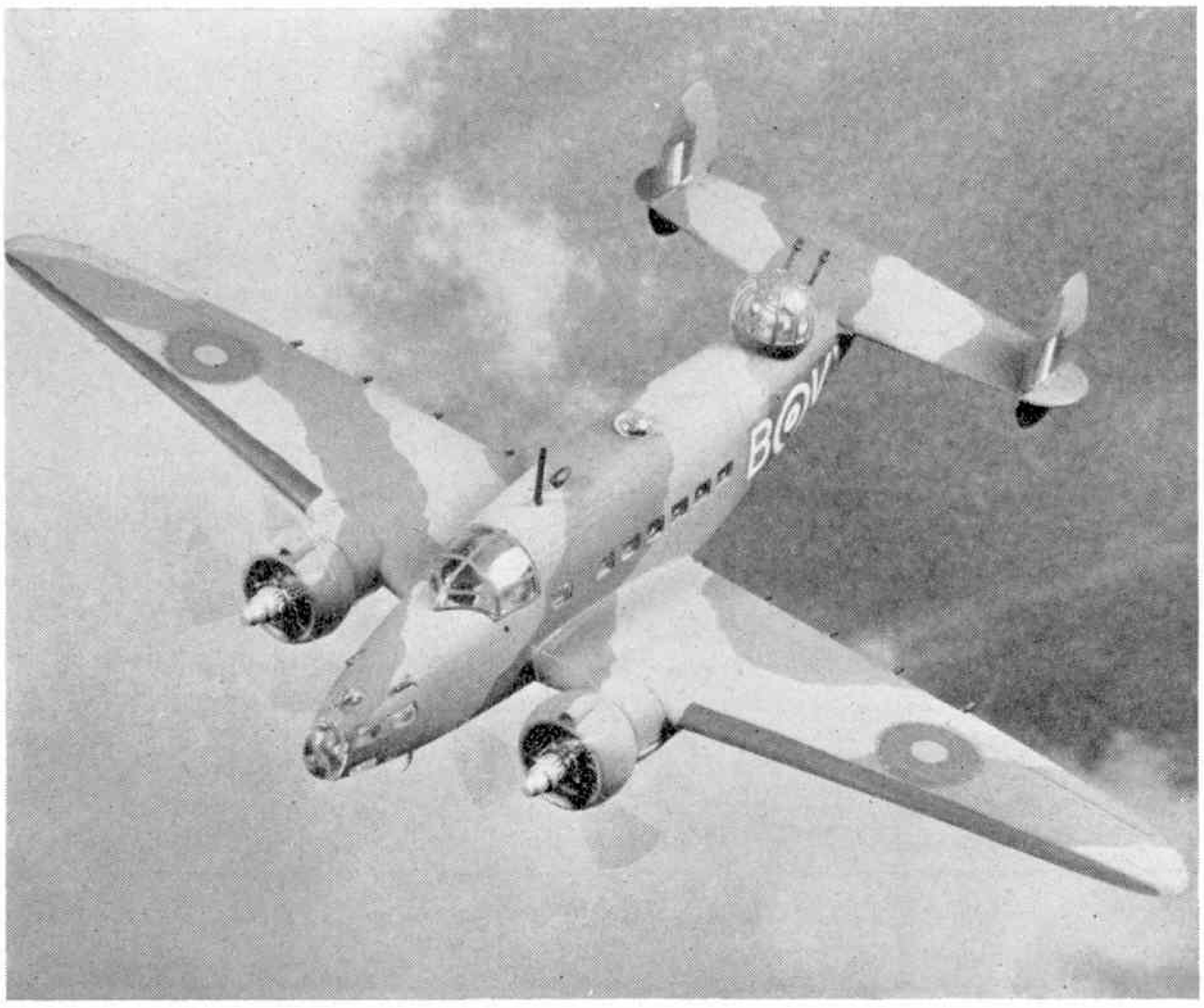


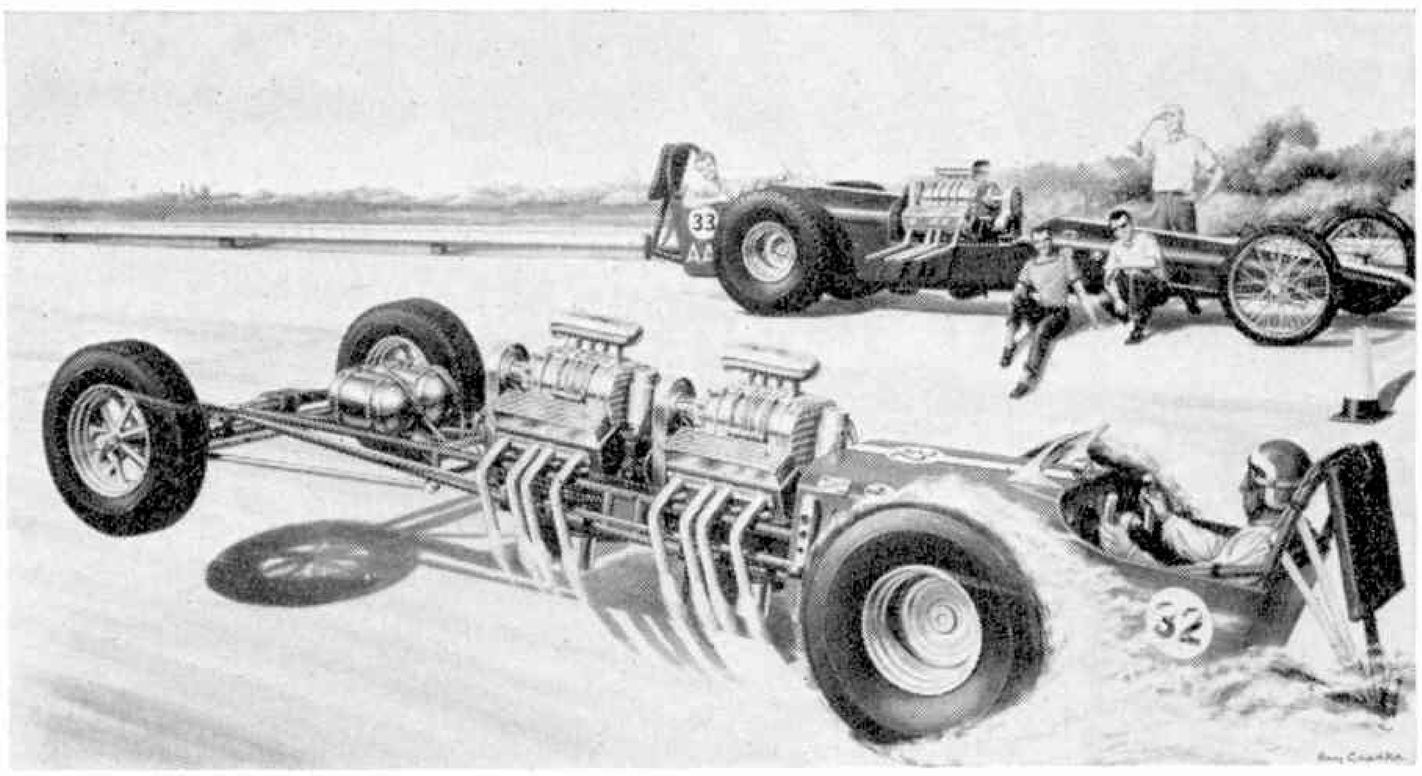
A useful new addition to the range of products made by Meccano Limited is the Hornby GP 15 Accessory Transformer (seen here). With an input of 220/240 volts 50 cycles and an output of 15 volts 1·5 amps. it is ideal for use with a 15 volt AC motor or a controller converting to DC. It will operate electrical mechanisms or miniature lamps and is fully protected from overload. Price in the United Kingdom **£1 5s.**

Another item from the list of products available under the Meccano trade mark are Super-Skates. These are skates with a difference, for by means of a simple thumb-screw adjustment, a standard size will suit any youngster between the ages of four and 14 without the need to use keys, spanner or straps. A spring-loaded front ensures instant fit and toe and heel guards protect your shoes. Super-Skates carry a guarantee and are available through Meccano dealers at **£2 9s. 6d.**



The first American aircraft to be used operationally during the Second World War—the Lockheed Hudson—has now been introduced in plastic construction kit form by Airfix. The kit consists of 85 individual polystyrene parts and is in the constant 1/72 scale series.
Originally ordered in 1938 by the R.A.F. as a navigational trainer, the Hudson Mk. 1—the subject of this Airfix model—was found to be suited ideally for general reconnaissance duties and replaced the Ansons in Coastal Command squadrons. Several outstanding operations were carried out by Hudsons, including leading the Royal Navy to the German prison ship 'Altmark' in 1940 and the sinking of many U-boats in the war's early years. In 1943 a Hudson became the first aircraft to sink a U-boat with rocket projectiles. **The price of the kit is 4s. 6d.**



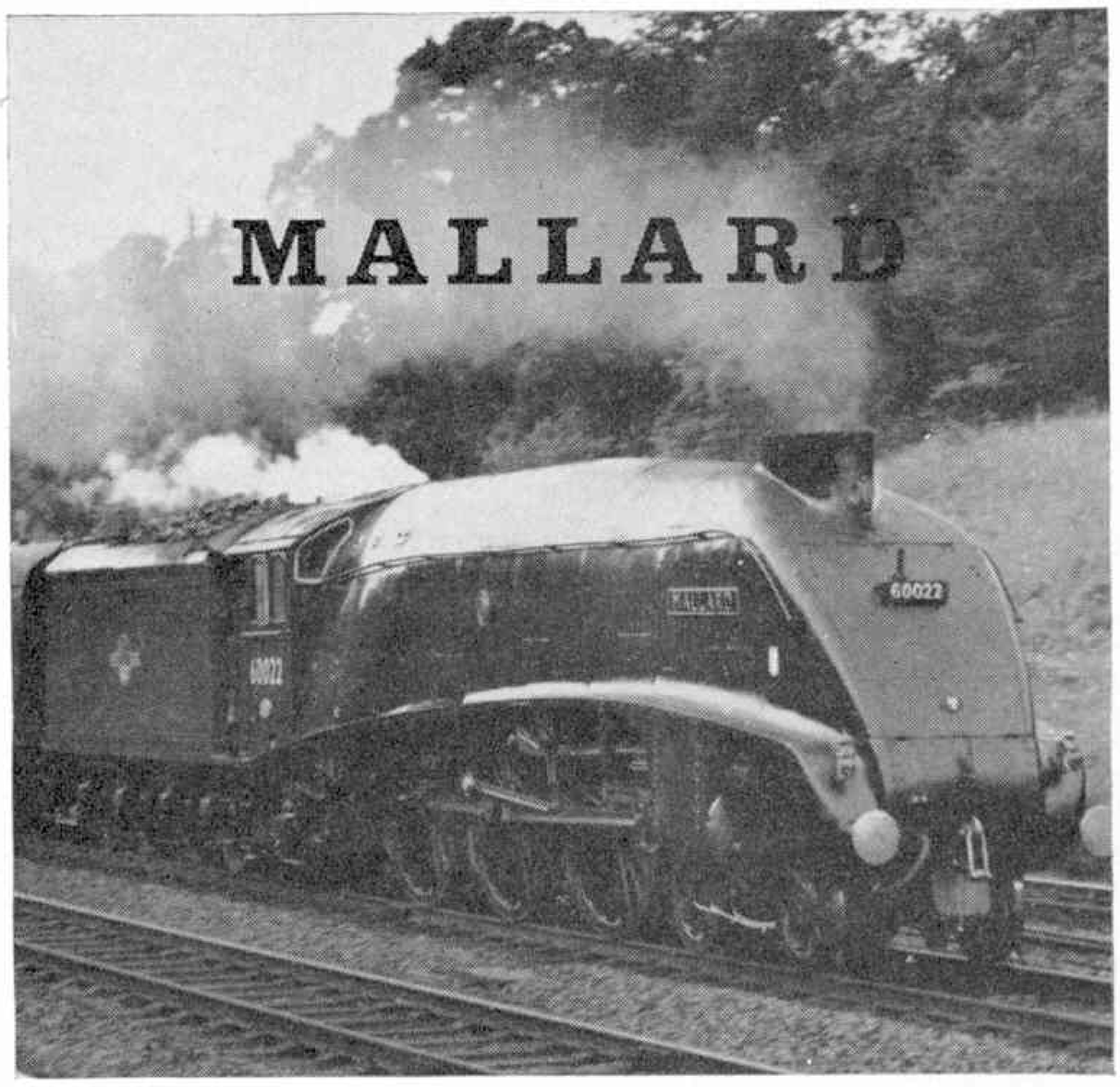


New from the Lindberg Line is this two-in-one dragster kit. It is called the *Exterminator*, and makes either the twin engine powerhouse, or the single engine dragster, with top or front mounted air intake. The kit is fully motorised with operating steering, removable body, and three pairs of wheels, tyres and motor. **Price £7 10s.**

Ian Allan Publications produce an information-packed Veteran and Vintage series of books covering various types of transport.
'British Cars 1896-1914' by P. D. Matthews, and 'European Cars 1886-1914' by T. R. Nicholson both have rather a novel approach. The manufacturers are presented in alphabetical order and a short and concise history of each is given, in which the cars are dealt with as they appeared on the scene, and not under specific headings. In the latter book, the makers are first grouped into their respective countries of origin and are then dealt with alphabetically.
In 'Commercial Vehicles' by E. L. Cornwell 'Tramcars' by J. H. Price (illustrated) and 'British Aircraft' by Kenneth Munson, each machine is covered under a separate heading. All five books make extremely interesting reading and cost **6s.** each.

Few reference books are small enough to be carried in the pocket yet compact enough to contain a wealth of information coupled with hundreds of illustrations, but the *Observer's Book of Aircraft* succeeds in doing just that. The current 1964 issue is the thirteenth edition, but it has been fully revised and brought up to date, describing existing aircraft only. Each of the 156 aeroplanes and helicopters dealt with is illustrated by means of a general photograph and, in addition, all the aeroplanes are shown in silhouettes which incorporate a front, a side, and an underneath view. They are not limited to any particular type or nationality, but include civil and military aircraft from all over the world. Information given about each covers type, power-source, performance, armament (if any) and development. An index enables you to find any given plane at a moment's notice. The book is compiled by William Green with silhouettes by Dennis Punnett. Published by Frederick Warne and Co. Ltd., **price 5s.**





This Easter see the fastest steam locomotive ever built, beautifully restored. A *must* for every schoolboy —and take Dad along, too. He may remember the day the record (126 mph) was made – 3rd July 1938.

Mallard is now on permanent exhibition with other historic locomotives, Royal coaches, buses and vintage vehicles in the world's largest collection of transport treasures.

Open 10.0 to 5.30 weekdays (closed Sundays and Good Friday.)

Admission Adults, 2s 6d; boys — and girls — under 15 years, 1s 6d. Reductions for school parties.

How to get there

UNDERGROUND: Northern line to Clapham Common.
BUSES: 35, 37, 45, 88, 118, 137, 155, 181, 189, and
GREEN LINE: 711, 712, 713 to Clapham Common station.
BRITISH RAILWAYS: Clapham (South London Line), Clapham Junction, or Balham, then by bus.

Visit also *The Railway Museum, York*
The Great Western Railway Museum, Swindon.

Museum of British Transport

CLAPHAM HIGH STREET · LONDON · SW4

TWO FRONT DAWES

Yes! Two New Models :-

GALAXY & CONCORD

NEW CATALOGUE WITH PLEASURE!

DAWES CYCLES LTD · TYSELEY · BIRMINGHAM 11



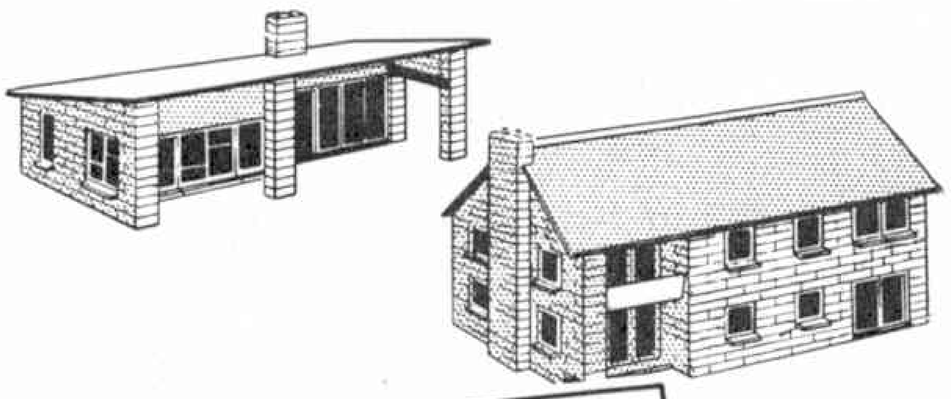
"build modern!"

WITH REAL BRICKS AND MORTAR

What exciting up-to-date building you can do with Contemporary Brickplayer. Each Kit contains real bricks, real cement and a wide range of models to build with them. Designed to '0' gauge scale by architects to look exactly true to life. Roofs, windows, doors, plans, full instructions—everything's complete. You can make permanent models or dismantle them and re-use bricks and other components.

CONTEMPORARY BRICKPLAYER KITS

A—19/11; B—29/6; C—55/-



CONTEMPORARY

BRICKPLAYER

WIN A PRIZE! £21·0·0 £10·10·0 £5·5·0
also consolation prizes are offered in the **BRICKPLAYER** contest

At good toyshops, hobby shops, departmental stores, etc.

POST TODAY

To: J. W. SPEAR & SONS LTD. (Dept. M), Enfield, Middlesex.
Please send leaflet describing Brickplayer and name and address of nearest stockist.

Name .....

Address .....

.....

for every handyman it must be

SECCOTINE
REGD



There's nothing like real SECCOTINE! For over sixty years Seccotine has been indispensable to every handyman. For sheer adhesive power buy Seccotine with the efficient new "pop-on" seal and open-nozzle tube ready for use.

Sole Manufacturers —
McCAW, STEVENSON & ORR LTD., BELFAST

STILL ONLY 1'3 PER TUBE



Oh boy!

Look what we've got!

You'll get hours of fun for years to come from a smartly finished solidly constructed working steam model by Mamod. These practical toys operate alone or with working models—mention them to Dad, he'll be enthusiastic too!

The new Traction Engine **99/6** *Steam Roller* **89/6** *Stationary Engines* **29/6** *to* **99/6**

SEE THEM AT YOUR LEADING TOY AND SPORTS SHOPS

Mamod

MALINS (Engineers) LTD.
THORNS ROAD
QUARRY BANK
BRIERLEY HILL
STAFFS.

On the Move

- SHIPPING
- AIRWAYS
- ROAD AND TRACK
- RAILWAYS
- SPACE TRAVEL

Go-Karting this year

Sandy Skinner

The author a Karting enthusiast of long standing, managed the team which won the Army Kart Championships in 1960.

EVEN IF you don't hold a driving licence, you can still take part in one of the most exciting sort of motor racing —karting.

Motor racing has always been a rich man's hobby. However, some years ago a group of enthusiasts in America decided to build the simplest possible racing car. They called it a Go-Kart—and its descendants, now called karts, have swept the world.

Nothing could be much simpler than a kart. Essentially it consists of an overgrown teatray with a tiny wheel at each corner, an engine at the back, and the driver perched on top. Many enthusiasts, including some who know almost nothing about cars, have built their own, and innumerable karts have been built from simple kits, on Meccano lines, rather than bought complete. Naturally a kart is not for use on the road. The police would scarcely approve of a vehicle with no wings, no horn, and no lights, to say nothing of no bodywork. It is intended purely for racing. Their small size means that karts can be raced on short, simple tracks instead of requiring special circuits such as Silverstone, while the close similarity between machines means that racing is always close and exciting. Even a concrete or tarmac track is unnecessary—karts can be raced on grass!

Although speeds attained cannot compare with those of full sized racing cars, a special kart can attain over 70 mph, and even the simplest and cheapest karts are capable of 30-40 mph. This may not sound very fast, but when the driver is sitting two inches above the road, with no windscreen and no springs, it is more exciting than 100 mph in a modern car. Above all, it's safe.

Just what is a kart? It consists of a simple tubular frame to which axles are fixed solidly, without springs, with a sheet metal floor and a driver's seat amidship. The engine—or engines— fit right at the back, and drive the rear wheels by chain. No bodywork is allowed. Two-stroke engines of the type used on lawn mowers or small motor cycles are used, and silencers are compulsory. The classification of a kart depends on the type of engine used, thus ensuring that karts always race against opposition with roughly the same engine power. As a result, driving skill and not sheer power is necessary to win.

The Royal Automobile Club, which controls all motor sport in Britain, recognises seven classes of kart; engines in the four divisions of Class I may have a maximum cylinder capacity of 100 cc, and those in Class II and both divisions of Class IV may use 200 cc engines. It is very easy to convert a 100 cc Kart to a 200 cc model—just add another engine! Only class IV karts may be fitted with gearbox.

Quite obviously, as power and performance increases, so does price. In order to keep karting within the reach of those who do not have large sums of money to spend on a hobby, races are organised for karts powered by engines which do not cost more than a certain sum. The lowest price class has an upper limit of £25—and, what is even more important, a complete second hand kart can often be bought for less than this. When it is remembered that a 1500 cc eight cylinder racing engine for a modern Grand Prix car costs about £5,000, it can be seen just how cheap a sport karting has remained.

The first step to going karting is to join a club. Almost 100 clubs recognised by the RAC are either devoted entirely to karts or run a kart section, and between them these clubs operate more than 60 tracks in Britain, from the Channel Islands to the North of Scotland.

In a club the beginner can be sure of finding reliable help and advice, and will receive guidance about the best type of kart for his or her needs. In addition, many clubs run

The fastest do it. Bruce McLaren, well known Grand Prix driver, is seen here cutting a corner close in a kart race at Brands Hatch.

schools for beginners, and karts can often be hired by those who do not possess their own.

Once in a club, a karting licence is essential. Junior licences are issued by the Competitions Department of the RAC to drivers between 14 and 16, who may only race against one another and not against older competitors, and full licences are available to those over 16. Both cost 10s. per year, and a road driving licence is not required. It is also well worth buying a copy of the 1964 kart regulations and fixture list from the RAC—a mine of information which is a good bargain at 5s. More information can be collected from specialised monthly magazines devoted to karting.

When a driver turns up for his first race, all he needs besides a licence and a kart is protective clothing—crash helmet, goggles, overalls and gloves. Safe as karting is, there is no point in taking unnecessary risks. Then the racing can begin.

One of the most exciting parts of any race is the start. The simplest karts are not fitted with clutches, and so are started and set off slowly for one lap of the circuit behind a pace car. At the end of the lap, the pace car drives clear and the race is on. Accelerators go down, engines roar, and drivers concentrate on their steering for the first corner. With anything up to 40 karts in a race, the first corner is vital, since a driver who takes the lead at this stage does not have the problem of overtaking others during the race.

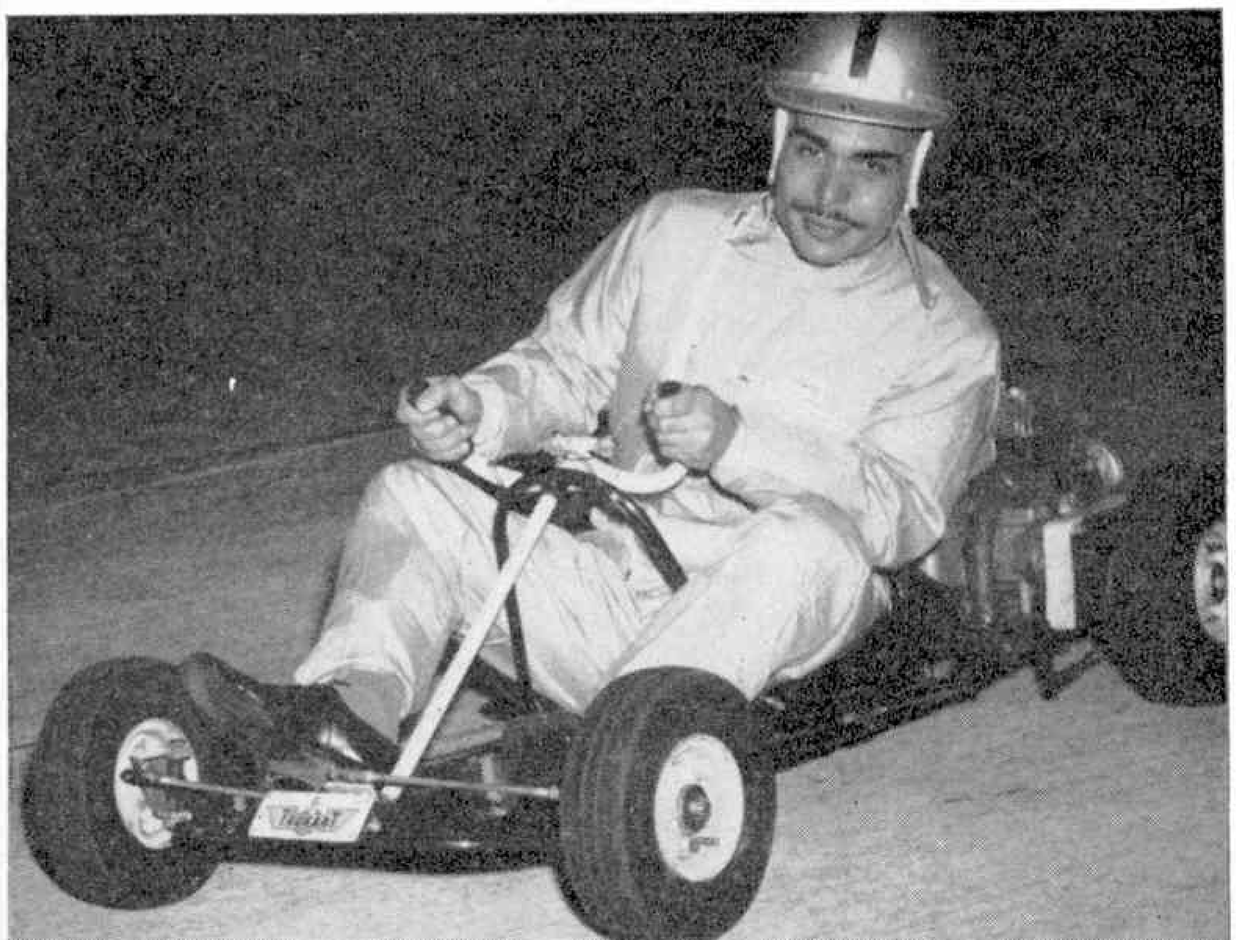
Very soon competitors begin to separate out, the most skilled drivers battling for the lead while others struggle to pass their nearest rivals.

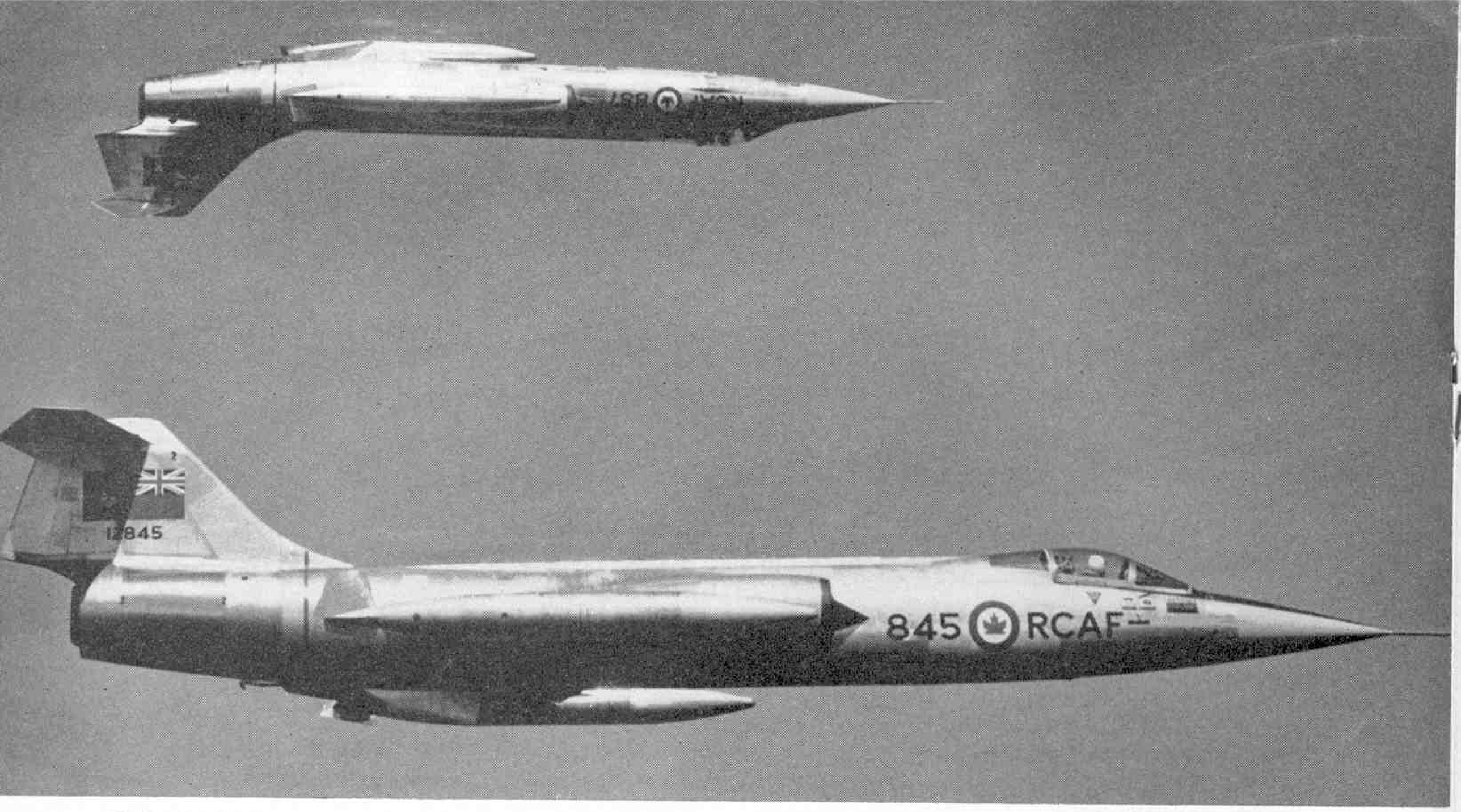
In the large capacity classes, the drama of a grid start is added. Karts line up at the start with engines running, and at the drop of a flag clutches are released, and the pack of karts rushes forward. These powerful models with clutches and gearboxes require extra skill and concentration from their drivers, being true racing cars in miniature. Smaller karts are much easier to drive, the only controls being a steering wheel, and brake and accelerator pedals.

Most races are quite short, ten laps of a four or five hundred yard circuit being common. Long distance races are held several times a year, and a six hour kart race is a magnificent spectacle. Repeated pit stops are necessary to refill fuel tanks, and even tyre changes may be necessary. Several drivers may take part, since six hours at racing speed on a springless kart, travelling on a bumpy track, is enough to shake the most hardened enthusiast into surrender.

The thrill of kart racing, with close competition, the sensation of speed travelling in a rush of wind close to the ground, and corner after tight corner, is unforgettable. One enthusiast who won the first properly organised kart race in Britain, now a well known motoring journalist and engineering expert, finally sold his kart and now travels in an E-type Jaguar. Quite recently he said, patting the bonnet of his car, 'Of course, it's a wonderful machine—but somehow it's not quite the same as a kart!'

Even royalty does it. King Hussein of Jordan is obviously enjoying himself as he puts his kart into a fast corner.





CF-104 Starfighters with a NATO strike and reconnaissance role have superseded F-86 fighter aircraft in NATO-assigned squadrons.

What is an Air Force?

John W. R. Taylor

IT MAY seem silly to ask 'what is an air force?', but not one person in a hundred would give a completely satisfactory answer. Most boys think of an air force in terms of fighters and bombers, packed with guns, rockets and other weapons. Their dads might add to the list aeroplanes used to carry troops, and camera-equipped reconnaissance aircraft. My *Encyclopaedia Britannica* goes even further by describing air forces as 'organisations that maintain, control and operate all types of aircraft and long-range missiles used for military purposes.'

This is fine, as it brings in training aircraft, helicopters, spotter-planes and anti-submarine types; but a modern air force often uses its aircraft for unmilitary purposes in peacetime. A report which I have just received from Ottawa tells how last year the Royal Canadian Air Force flew 20 tons of powdered milk and four tons of canned meat to Curitaba, Brazil, after a disastrous flood; spent 8,065 hours on 155 air searches for missing aircraft; and enabled scientists to make an above-the-clouds study of a total eclipse of the sun over Canada in July.

These are hardly the kind of jobs which one would expect an air force to do, but they emphasise what good value the Canadian people are getting for the money they spend on the RCAF.

Its primary purpose is, of course, to defend Canada and the five squadrons of McDonnell CF-101B Voodoo two-seat all-weather fighters operated by Air Defence Command are among the most important aircraft in its armoury. A nuclear agreement with the United States, signed last August, has enabled the Voodoos to be armed with Genie air-to-air missiles, fitted with nuclear warheads. The two squadrons of Bomarc surface-to-air missiles based at North Bay, Ontario, and La Macaza, Quebec, also have nuclear warheads.

All of these fighter and missile squadrons are integrated with their U.S. Counterparts in North American Air Defence Command (NORAD), which is responsible for protecting the whole continent against air attack. To ensure that no enemy aircraft would be overlooked, and no interception duplicated, the squadrons are controlled by a vast network of radar and computing centres known by the code-name SAGE (Semi-Automatic Ground Environment). The first of these SAGE centres to be built underground was opened near North Bay in September. Its 'brain' is an electronic computer weighing no less than 276 tons.

Up to 1963, the RCAF also contributed 12 squadrons of CF-100 and Sabre interceptors to NATO air defence forces in Europe; but these aircraft, operated by 1st Air Division in France and Germany, are being replaced by eight squadrons of 1,400 mph CF-104 Starfighters, enabling the Division to switch to ground attack and

reconnaissance duties. Six squadrons of CF-104s are already operational, the other two will follow later this year.

The RCAF has no strategic or tactical bomber force, but Maritime Air Command's three squadrons of Argus and one squadron of Neptune anti-submarine aircraft keep constant watch over shipping lanes in the North Atlantic and off Canada's west coast. This work, and participation in NATO exercises, required more than 20,000 hours of flying in 1963. Often, the anti-submarine patrols involved performing manoeuvres just above the sea in bad weather, yet not one Argus or Neptune has been lost in over five years of service.

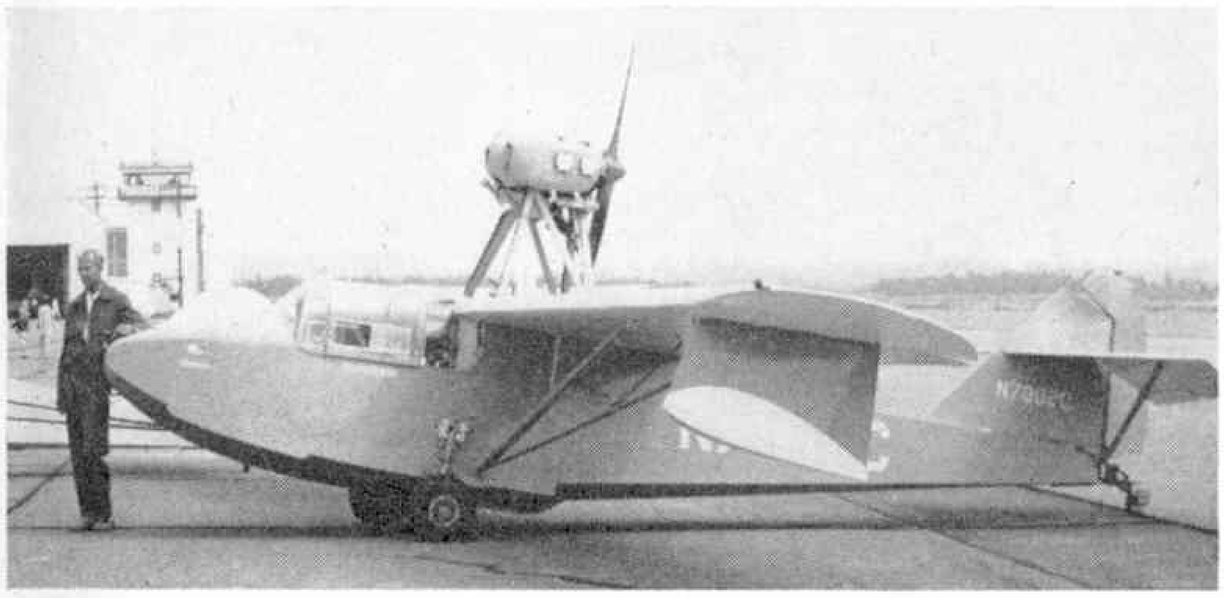
No less important is Air Transport Command. Its primary job is to shuttle men, equipment and supplies regularly between military centres in Canada and to Canadian air and ground forces serving with NATO in Europe, but a high proportion of its time is devoted to errands of mercy. As well as air-lifting milk and meat to Brazilian flood victims, one of the big CC-106 Yukon turboprop freighters of 437 Squadron flew 12 tons of Red Cross and other supplies to East Pakistan last year, after a cyclone had struck that country.

In Canada, search and rescue units, equipped with fixed-wing aircraft, helicopters and Albatross amphibians, flew 9,728 hours in nine months searching for missing persons, rescuing ten stranded people, carrying sick and injured to hospital, searching for missing aircraft and ships, carrying medical and other supplies in emergencies and investigating other incidents. Overseas, Air Transport Units continued to patrol the Sinai area in Egypt, to prevent border clashes with Israel, and helped United Nations forces to restore and maintain peace in Yemen, West New Guinea and the Congo.

The aircraft used for these UN duties are mostly Caribou and Otter light transports built in Canada. Also Canadian-built are the CF-104s of 1st Air Division, the Argus anti-submarine aircraft of Maritime Air Command, the turboprop Yukon and CC-109 aircraft of Air Transport Command and much of the equipment of Training Command. Latest type to enter service is the Canadair CT-114 Tutor jet trainer, which began to replace piston-engined Harvards last October.

Do-it-yourself amphibian

Five years ago an American aircraft designer named Volmer Jensen completed the prototype of a neat two-seat light amphibian which he called the Sportsman.







Since then he has not only flown more than 600 hours in it but has produced sets of drawings to enable other enthusiasts to build and fly the aircraft.

Over 300 sets of drawings have been sold throughout the world and the photograph .... shows the first do-it-yourself Sportsman, built by J. Wright Chappell, a boatyard owner of Vancouver, Canada. Construction took 13 months of spare-time work and Mr. Chappell has achieved a really superb surface finish by using glass-fibre in place of plywood in many places. Power is provided by a 125 hp Lycoming O-290-D engine, driving a pusher propeller. The main wheels retract forward when the aircraft is operated from water, and the wings and tailplane can be removed or reassembled by two people in 30 minutes, enabling the Sportsman to be towed along the road on a trailer behind a motor car. Volmer Jensen's prototype Sportsman is fitted with standard Aeronca lightplane wings and has a Continental C85 engine of only 85 hp. Despite this low power, it will take off at its full loaded weight of 1,500 lb in only 8 seconds on land or 16 seconds on water. It cruises at 80 mph and will fly 300 miles on 20 gallons of fuel.

New aerials for Concord

The Anglo-French Concord supersonic airliner, scheduled to fly in 1966, will use its wings, tail and 180-ft fuselage as a long-range radio aerial. This will be made possible by a new 'notch' aerial system developed by Standard Telephones and Cables and already tried on a smaller scale on the Trident and Vanguard airliners.

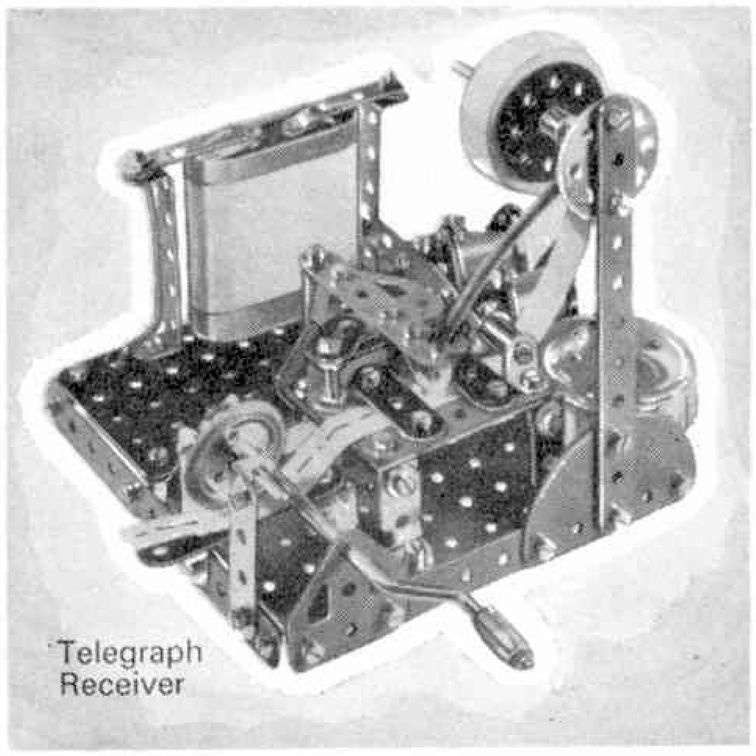
Top: One of the RCAF's new Boeing-Vertol CH-113 search and rescue helicopters.

Centre: Canadair Argus anti-submarine patrol aircraft.

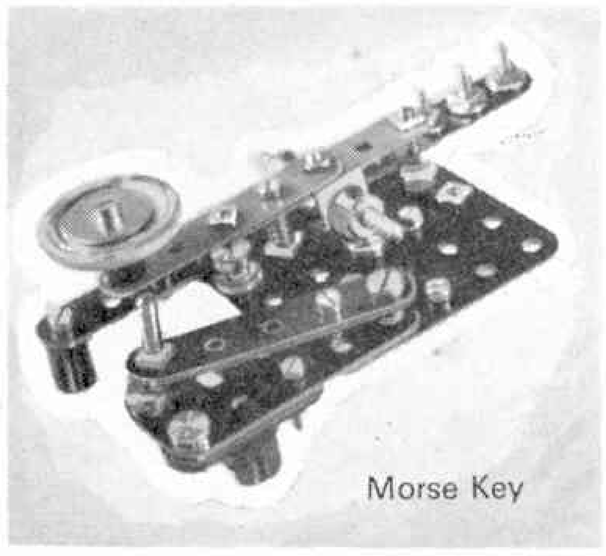
Left: The prototype Sportsman Amphibian with its designer Volmer Jensen at Abbotsford Airport, near Vancouver.

SWITCH TO *Elektrikit*

—ADD LIGHTS AND MOVEMENT TO MODELS

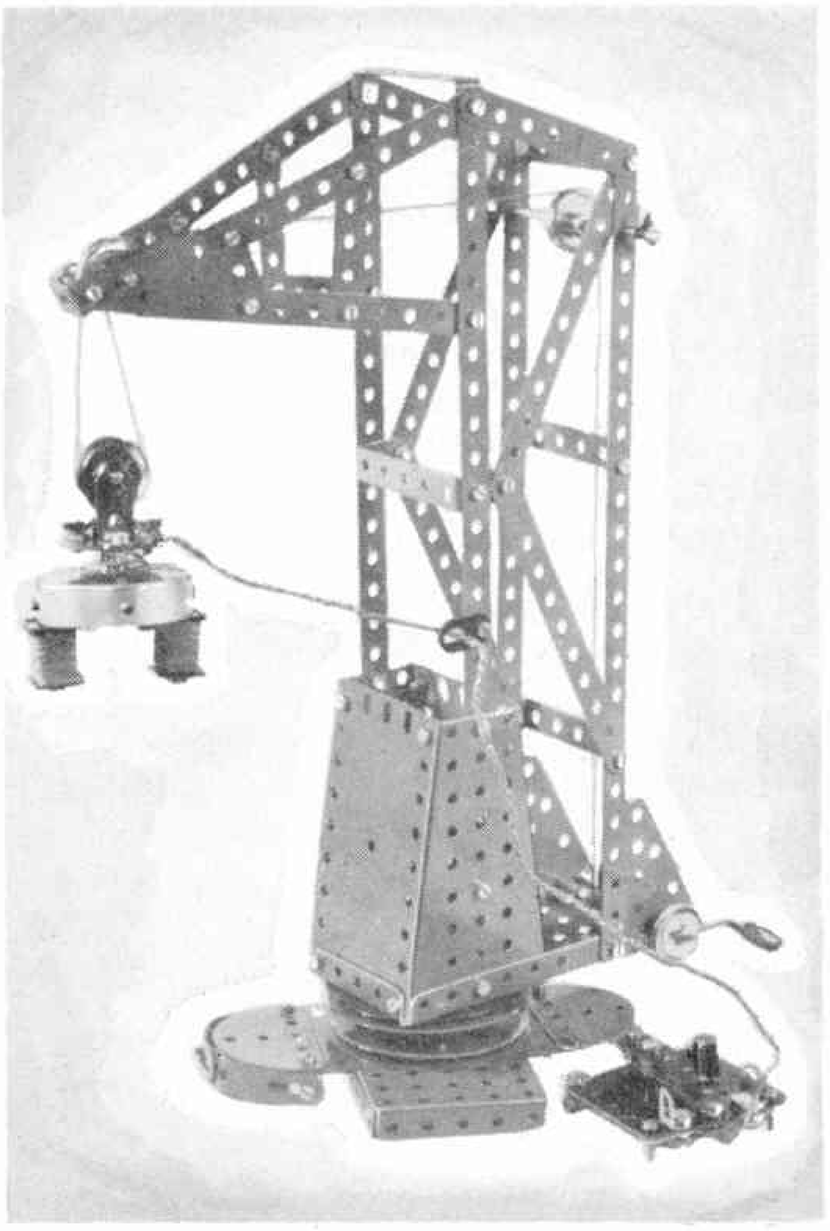


Telegraph Receiver



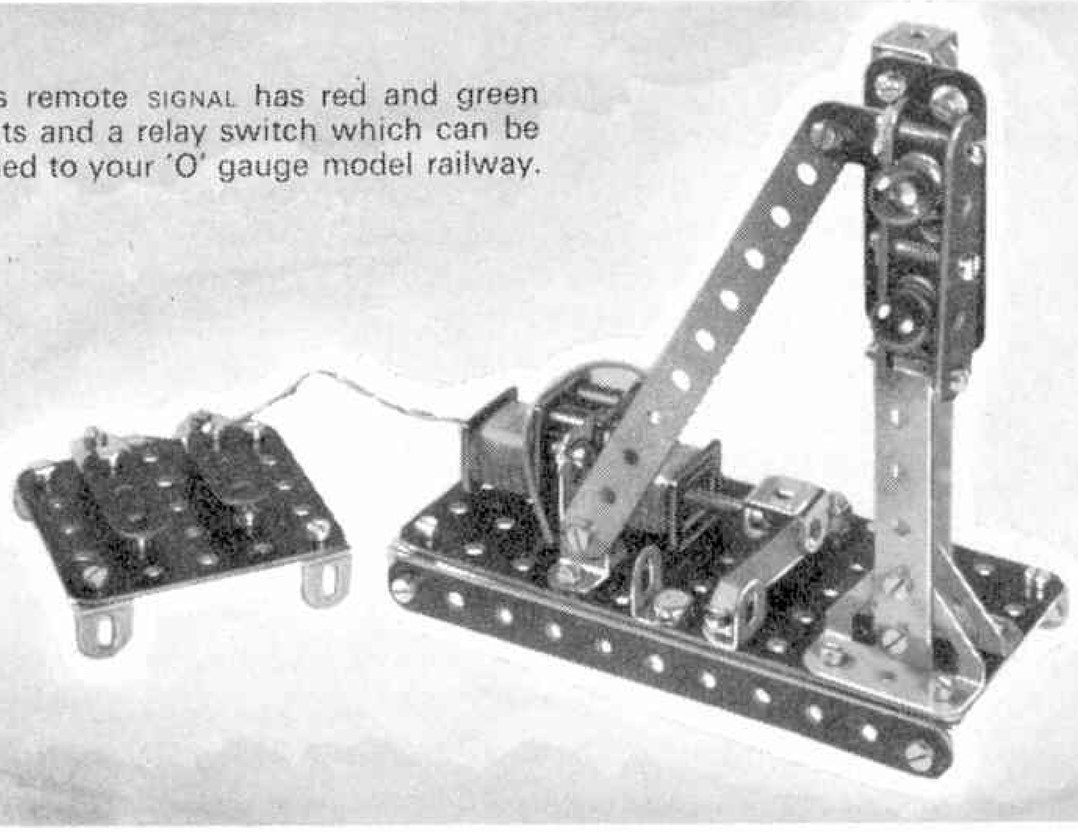
Morse Key

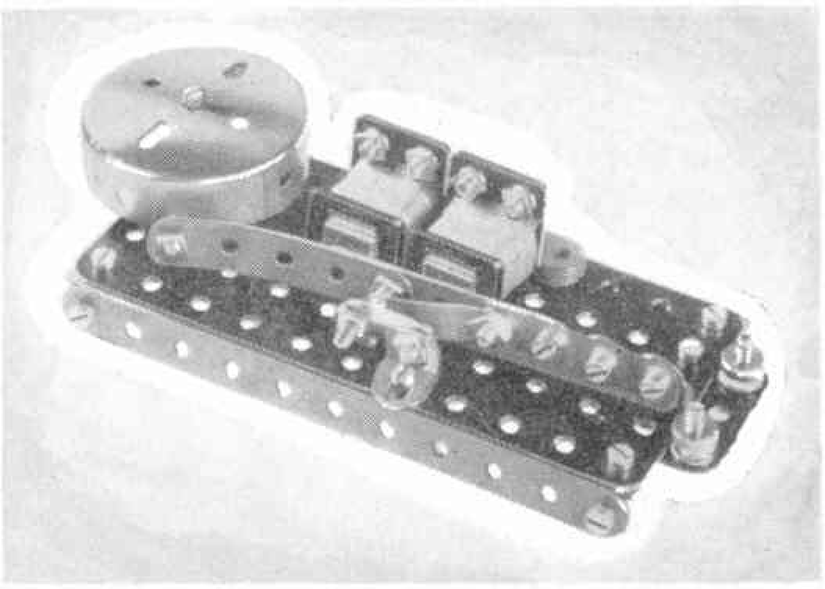
Tap out and receive secret messages from your 'agent' in another room with this TELEGRAPH RECEIVER with bell and MORSE KEY! A paper tape records the coded message which you can read afterwards.



Build a working ELECTROMAGNETIC CRANE and watch it automatically lift and carry metal objects.

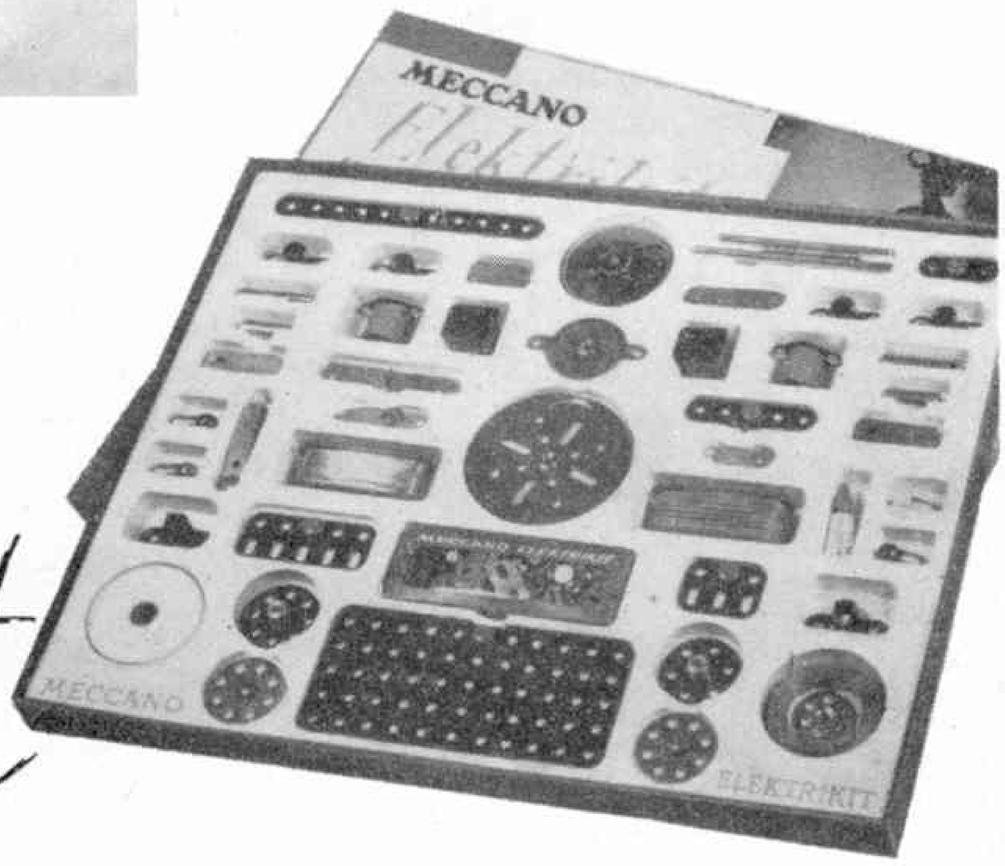
This remote SIGNAL has red and green lights and a relay switch which can be added to your 'O' gauge model railway.





Expecting a visit from friends? You can quickly and easily make this ELECTRIC BELL and fit it on your door.

Used with a No. 3 Meccano Outfit (or a larger one) and a power unit or small battery Elektrikit can make all these and dozens of other electrically operated models and motors. Free illustrated instruction book showing range of models with every kit. Only **£3.17.11.** U.K. price.



SWITCH TO **MECCANO** *Elektrikit*

Made and guaranteed by Meccano Limited

Shipping by
Robert Gore

New fashions in figureheads

WHEN GREAT sailing ships plied their trade on the high seas, there was generally a fine figurehead on the bows. And why not? They were placed on the prow for decorative purposes. After all, the ship would be the home of many men for long periods of time so it was appropriate that some attention should be lavished on it. Another reason was that it was hoped that the adornment would guide the vessel to good fortune and keep at bay evil spirits. Anyone so closely associated with the elements as sailors are certain to be superstitious and this is still true today if to a lesser degree. It is not many years ago when I was at sea on a coaster which had suffered a certain amount of bad luck in one way or another, that a very pointed and derisive remark was passed by the mate to the effect that this was due to there being a 'Jonah' aboard and no possible doubt was left as to the person he had in mind.

Names that will never be entirely forgotten by those who love the sea are those of the rival and record breaking tea clippers—*Thermopylae* and *Cutty Sark*. As you probably know, the latter is now preserved as a museum on the South bank of the Thames at Greenwich as a memorial to the Merchant Service under sail. Among other interesting items in her hold will be found several old figureheads. The original figurehead of the *Cutty Sark*, representing the Nannie of Robert Burns' Tam o' Shanter, was lost but has been replaced by a replica. From 1796, British naval vessels ceased to carry figureheads but merchant ships continued to display them for a number of years until the fashion waned before the age of the steamers. Recently there seems to have been something of a revival of the custom of bow decoration although in a slightly different form, although the tendency is for ships to have crests rather than figureheads. A notable exception is found in the fleet of the Norwegian shipowner, Fred. Olsen.

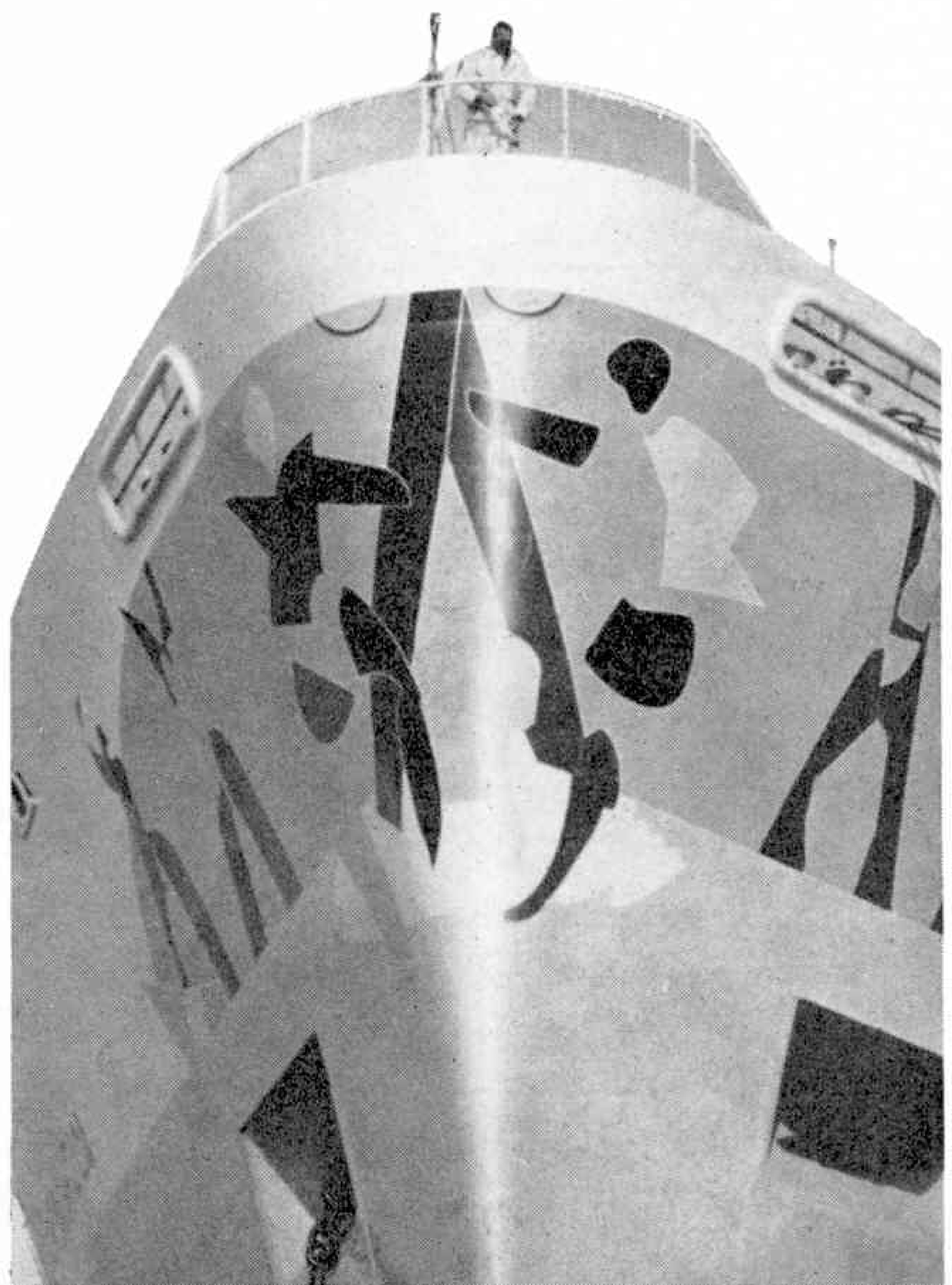
The advent of the more rounded 'soft nose' vessels which replaced the older type of rigid stems, provided an ideal opportunity to bring back something of the beauty of the days of sail and it was at this time that Thos. Olsen seized the chance to place figureheads on ships. In 1936, a new vessel destined for the Mediterranean fruit trade, the *Bayard*—Olsen's fifth ship of that name—was fitted with a bronze figurehead, an effigy of the French knight so well known for his appellation *sans peur et sans reproche*—which was emblazoned on his banner. Since that time practically every new launching for the company has had a figurehead or bow decoration, now altogether over 50 having been cast. And in spite of the fact that the figureheads are placed in prominent positions where they are likely to suffer damage, only half-a-dozen or so have been lost.

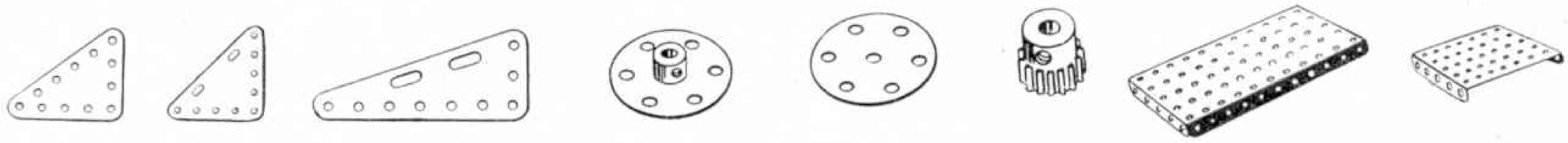
Figureheads of the past have predominated in replicas of the human form, the female taking precedent over the male presumably because ships have always been regarded as 'shes'. Those in the Olsen fleet are not exceptional in this respect. The best known to Britons are those of the sister ships, *Blenheim* and *Braemar*, which carry thousands of passengers each year between the Tyne and Oslo. The former carries a figurehead of two goddesses of victory holding a laurel wreath between them, while the latter depicts Braemar Castle.

In 1958, the painter, Jakob Weidemann, made an 180 ft long decoration for the 24,978 ton tanker, *Borgny*. The first reaction to this new trend was immediate and perhaps as startling as the decoration itself. The charterers demanded that for as long as the ship was under charter to them the decoration should be painted out! However, since then several contemporary painters have decorated other vessels, like the *Botticelli* and the *Brielle*, and such features are now accepted as a common sight in many ports of the world.

The Norwegian sculptor, Ornulf Bast, modelled many figureheads for the Olsen Line and on being commissioned to make one for the *Bonnard* (3,640 tons), he took a radical departure from the established custom of modelling in bronze. The new decoration was to be made in Byzantine Ravenna glass mosaic, and although this form has a 2,000 years tradition it had never before been used at sea. Bast chose the French impressionist painter, Pierre Bonnard (1867-1947) for his subject and in the design he is portrayed standing on a starred blue crescent, representing night, with a colour spectrum background representing dawn.

A painted decoration on the BORGHOLM





Dealers who specialise in Meccano spare parts

Listed below are some of the dealers who sell Meccano accessories and spare parts. This is intended to aid enthusiasts—and there are many of them—who constantly require additional spare parts for their Sets. All dealers can, of course, order Meccano spare parts for their customers, but those listed here are among our spare part specialists.

C. G. MARSHALL
Maxwell Road
BEACONSFIELD
Telephone: 1092

BATESON'S SPORTS DEPOT LTD.
58 Abingdon Street
BLACKPOOL
Telephone: 24061

TETT'S THE IRONMONGERS
402 Wimborne Road
Winton, **BOURNEMOUTH**
Telephone: Winton 309

H. SALANSON & CO. LTD.
83-85 Fairfax Street
BRISTOL 1
Telephone: 2-6185

BARRETT'S LTD.
2 St. George's Street
CANTERBURY
Telephone: 6161

GORDON EASTON & CO.
40 Lowther Street
CARLISLE
Telephone: 22947

R. M. HILL & SONS
36/40 Castle Street
CARLISLE
Telephone 21621 and 21122

W. PAINE & CO. LTD.
168 High Street
CHATHAM, Also at Strood and Grays
Telephone: 45215

DOLL'S HOSPITAL (YOUNGSTERS)
55 Hallgate
DONCASTER
Telephone: 2831

DERRETT (Toys) LTD.
52 High Street
ERITH, Kent
Telephone: 32339

FLETCHERS (Sports) LTD.
20-24 King Street
GLOUCESTER
Telephone: 22974

THE GUILDFORD DOLL'S HOSPITAL LTD.
13 Swan Lane, **GUILDFORD**
Telephone: 61331

WILMANS
Arcade
HITCHIN
Telephone: 4250

THE MODEL SHOP
179 Ferensway
HULL
Telephone: 29199

LUCAS'S (Hobbies) LTD.
7 Tarleton Street
LIVERPOOL 1
Telephone: Royal 7562

H. A. BLUNT & SONS LTD.
133 The Broadway, Mill Hill
LONDON N.W.7
Telephone: Mill Hill 2877

JEREMY
16 Princes Arcade, Piccadilly
LONDON, S.W.1
Telephone: Regent 1846

WAIN'S THE TRAIN SHOP
478 Kingsland Road
DALSTON, LONDON E.8
Telephone: Clissold 8186

BOYDELL'S
Percy Street
NEWCASTLE-ON-TYNE 1
Telephone: 24281

F. T. B. LAWSON LTD.
New George Street
City Centre, **PLYMOUTH**
Telephone: 65363

RICHARD MARSDEN & SON LTD.
115 Church Street
PRESTON
Telephone: 3314

THOMAS MEARS LTD.
14 and 15 Fishergate
PRESTON
Telephone: 5219

LANE'S TOY SHOP
75 High Street
ROCHESTER
Telephone: Chatham 41870

WILTONS SPORTS AND GAMES
Corner Canal and Queen Street
SALISBURY
Telephone: 2984

J. WALKER
87 Columbus Ravine
SCARBOROUGH
Telephone: 3223

OSBORN & CO. (Southampton) LTD.
9 High Street
SOUTHAMPTON
Telephone: 23617

JOHN W. BAGNALL LTD.
Modern Craftsmen's Supplies
South Walls, **STAFFORD**
Telephone: 3420

LESLIE BROWN
Super Toy and Model Store
95 High Street, Stockton-on-Tees
Telephone: 67616

CLEMENT'S (Watford) LTD.
22-23 The Parade
WATFORD
Telephone: 28211

OVERSEAS DEALERS

AUSTRALIA

Jack Stanbridge's Hobby Shop
54a Canning Highway
Victoria Park, **PERTH, W. Aust.**
Telephone: 6-1668

Walther & Stephenson Pty. Ltd.
395 George Street
SYDNEY and Branches
Telephone: BX 3566

NEW ZEALAND

JACKSON CYCLES LTD.
99 Karangahape Road
AUCKLAND C.2
Telephone: 30-281



MECCANO AND ITS ANCILLARIES

THIS MONTH

meccano magazine

LOOKS AT

Build a model stone crusher . 30

Dad's answer to Challenge . 32

A dynamo with Elektrikit . . 33

Building a paper world . . . 34

A striking new Hornby model . 36

Combined shop and office . . 37

A new racing car 38

Miniature train formations . . 43

by **Spanner**

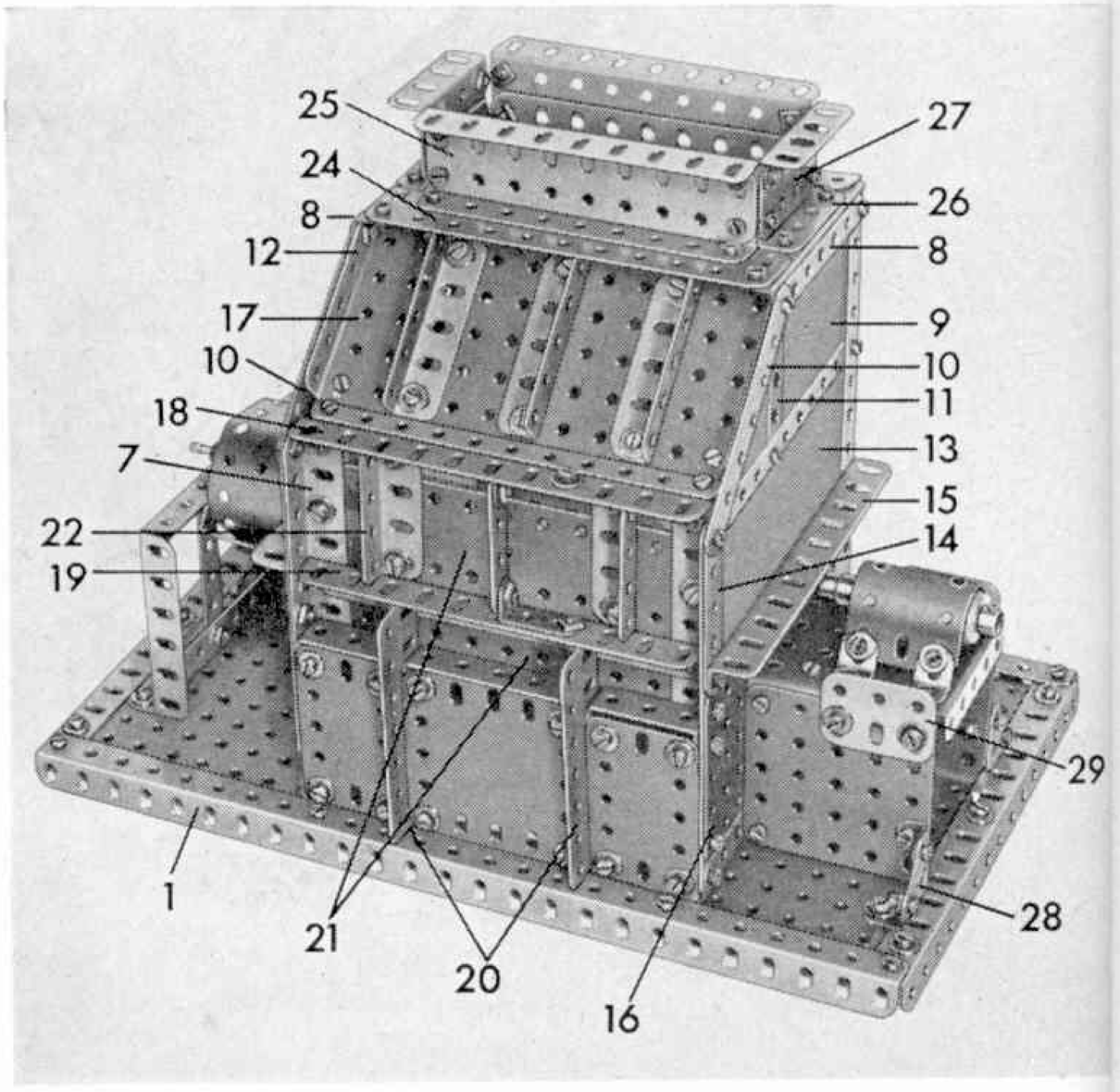
Build yourself a model

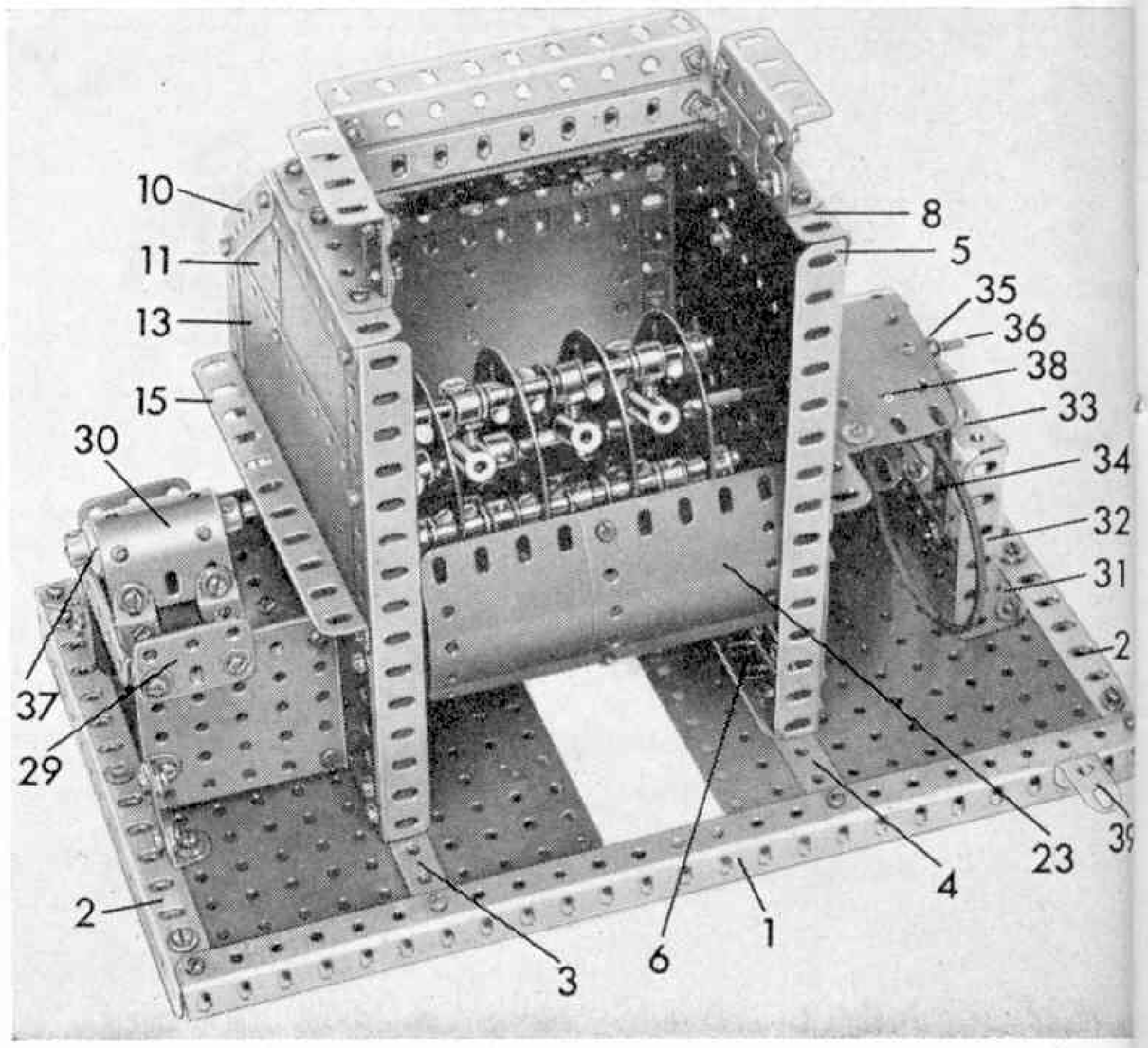
OVER THE years, we have featured an immense variety of models, but never, to the best of my knowledge, has a stone crusher been numbered among those covered—until now. The model described here is based on an actual machine produced by Frank Mansfield and Co, of Birkenhead, and although it does not actually crush stones it clearly illustrates the action of the prototype.

Granulators, as these machines are sometimes called, work on a straightforward idea. Basically they consist of a strong casing covering a crushing compartment, in which there is a hammer arrangement known as a 'rotor'. Interchangeable grids form the floor of the compartment, and the top and back are fitted with tough corrugated lining plates. The material to be broken is fed in at the top, and, once inside, is struck by the hammers, which shatter it, and it is then thrown against the corrugated plates, breaking further with the impact. This action is repeated until the particles are small enough to filter through the grids at the bottom.

The base or bed of the model is built up from two $12\frac{1}{2}$ in Angle Girders 1, and two $7\frac{1}{2}$ in Angle Girders 2, arranged in a rectangle, with two $7\frac{1}{2}$ in Strips 3 and 4 being used as strengtheners. Four $5\frac{1}{2}$ in by $3\frac{1}{2}$ in Flat Plates are bolted to Girders 2, as shown, but they are not, yet, fixed to Strips 3 and 4, although this will be done later. It is best to construct the main casing separately before fixing it to the base. Each side is built in a similar way, as follows:—A $7\frac{1}{2}$ in Angle Girder 5 is fixed to one end of a $5\frac{1}{2}$ in Angle Girder 6 and a further $5\frac{1}{2}$ in Angle Girder 7 is fixed to the other end. To the top of Girder 5, a $3\frac{1}{2}$ in Angle Girder 8 is bolted, the same bolt also holding a $3\frac{1}{2}$ in by $2\frac{1}{2}$ in Flexible Plate 9 in position. Girders 7 and 8 are connected by a $3\frac{1}{2}$ in Strip 10, the top Bolt also holding a $2\frac{1}{2}$ in by 2 in Triangular Flexible Plate 11, and a $2\frac{1}{2}$ in Angle Girder 12 in place. The lower Bolt, in addition, holds a $5\frac{1}{2}$ in by $2\frac{1}{2}$ in Flexible Plate 13 and a $2\frac{1}{2}$ in Strip 14. A $5\frac{1}{2}$ in Angle Girder 15 is bolted in place and the remaining gap in each side is filled in by a $5\frac{1}{2}$ in by $2\frac{1}{2}$ in Flat Plate 16.

Although rather complex in appearance, the front of the casing is really quite easy to build. A $5\frac{1}{2}$ in by $2\frac{1}{2}$ in Flat Plate 17, carrying three $2\frac{1}{2}$ in Angle Girders, is bolted to Angle Girders 12 and a further two $5\frac{1}{2}$ in Angle Girders 18 and 19 are fixed between Girders 7. The space between Plate 17 and Girder 18 is filled by a $5\frac{1}{2}$ in Narrow Strip attached to the Plate by Obtuse Angle Brackets. Two $3\frac{1}{2}$ in Flat Girders 20, one $2\frac{1}{2}$ in by $\frac{1}{2}$ in and two $1\frac{1}{2}$ in by $\frac{1}{2}$ in Double Angle Strips are also bolted as shown, between Girders 7. Another $2\frac{1}{2}$ in by $\frac{1}{2}$ in





stone crusher

Double Angle Strip is bolted to the lower ends of Flat Girders 20, and at the same time two $2\frac{1}{2}$ in Angle Girders are fixed, with the Flat Girders, to the lugs of both these Double Angle Strips. All remaining spaces are covered by two $5\frac{1}{2}$ in by $1\frac{1}{2}$ in Flexible Plates 21, two $2\frac{1}{2}$ in by $1\frac{1}{2}$ in and one $2\frac{1}{2}$ in by $2\frac{1}{2}$ in Flexible Plate. Girders 18 and 19 are connected by a 2 in Strip fixed to the Girders by two 1 in by $\frac{1}{2}$ in Angle Brackets, and two 2 in Angle Girders 22 are finally bolted in position.

Four $5\frac{1}{2}$ in by $2\frac{1}{2}$ in and two $4\frac{1}{2}$ in by $2\frac{1}{2}$ in Flexible Plates, built up into a $13\frac{1}{2}$ in by $4\frac{1}{2}$ in compound plate 23, form the actual crushing chamber. In the illustration opposite the two $4\frac{1}{2}$ in by $2\frac{1}{2}$ in Plates have been removed to show the hammers. The front end of the compound plate is only wedged between Plate 21 and the lower flange of Girder 18, but is held in position at its lowest point by a $5\frac{1}{2}$ in by $\frac{1}{2}$ in Double Angle Strip bolted through Flat Plates 16. The lugs of the Angle Strip are spaced from the Plates by Washers. The rear end of the plate is fixed to a $5\frac{1}{2}$ in Angle Girder bolted through the adjacent end holes of Girders 5 and 8 on each side of the model. This Girder also has been removed in the opposite illustration.

A $5\frac{1}{2}$ in Flat Girder 24 is attached to Angle Girders 8, and a $4\frac{1}{2}$ in Angle Girder 25, extended by a $4\frac{1}{2}$ in Flat Girder, is bolted to it. Another $5\frac{1}{2}$ in Angle Girder similarly extended is bolted to the $5\frac{1}{2}$ in Angle Girder mentioned above, which is bolted to Girders 5 and 8. To each of the Girders 8 and a 2 in Angle Girder 26, extended by a 2 in Flat Girder 27, is bolted and then two further $5\frac{1}{2}$ in and two 2 in Angle Girders are fitted in position, as shown, to form a lip.

This completes the main casing and it is now fixed in position on the base. A bearing bed is built-up from three $2\frac{1}{2}$ in by $2\frac{1}{2}$ in Flat Plates, bolted to three $2\frac{1}{2}$ in Angle Girders. This arrangement is then attached to Flat Plates 16 by bolts with another two $2\frac{1}{2}$ in Angle Girders being used as brackets. In addition, the bed is held by two 1 in Corner Brackets 28 connected to the $2\frac{1}{2}$ in side Plates and the base by Angle Brackets, as can be seen. Each side Plate is extended by a $1\frac{1}{2}$ in Flat Girder 29. Four Obtuse Angle Brackets are fixed to the top $2\frac{1}{2}$ in by $2\frac{1}{2}$ in Flat Plate, and a $2\frac{1}{2}$ in by $1\frac{1}{2}$ in Flexible Plate 30, curved as shown, is bolted to these. At the other side of the model a second bearing bed is formed from a $3\frac{1}{2}$ in Angle Girder 31, fixed to the base and carrying a 3 in Angle Girder 32 at each end. These Girders are joined at the top by another $3\frac{1}{2}$ in Angle Girder 33 and a 3 in Strip 34 is bolted through the centre holes of this Girder and Girder 31 for strengthening purposes. A Handrail Support 35, with the Grub Screw removed, is firmly fixed through the centre hole in the top flange of Girder 33.

The crushing mechanism, or rotor, consists of five Face Plates each fixed approximately 1 in from the next on an $11\frac{1}{2}$ in Rod 36. Each hammer is a Coupling, through the centre transverse tapped bore of which a $\frac{3}{4}$ in Bolt, fitted with a Nut, is screwed. The Bolt is then screwed into a Collar, care being taken that the Nut prevents it from entering too far, as the Collar must be completely free to turn on a Rod.

Four 5 in Rods are fitted through the outer circular holes in the Face Plates and four hammers are placed on each Rod, one hammer between every two Plates. Spring Clips and Washers hold the hammers in place, the order of fitting being as follows:—Face Plate, Spring Clip, Washer, hammer, Washer, Spring Clip, Face Plate. The hammers *must* be perfectly loose on the Rods which are held in the Face Plates by Collars. The $11\frac{1}{2}$ in Rod forming the axle of the rotor is journalled in the Handrail Support 35 and in the centre holes of Angle Girders 15, Collars adjoining the Girders holding the Rod in place.

An imitation large bearing is built-up on one end of the axle from a Sleeve Piece holding a Chimney Adaptor 37 at each end. The resulting cylinder is held on the axle by Collars.

At the opposite end of the Rod, between the casing and the bearing bed, a Cone Pulley is fixed. A $5\frac{1}{2}$ in by $1\frac{1}{2}$ in Flexible Plate 38, attached to Girder 15 by a Fishplate and to Strip 34 by a 1 in by $\frac{1}{2}$ in Angle Bracket, is bent around the Pulley to act as a guard. Drive to the Pulley is taken through a Driving Band from a motor which can be bolted to the base and the 1 in by $\frac{1}{2}$ in Angle Bracket 39 is placed there for this purpose.

Parts required.—2 of No. 1b; 1 of No. 2; 2 of No. 3; 1 of No. 4; 2 of No. 5; 1 of No. 6; 2 of No. 8; 4 of No. 8b; 9 of No. 9; 4 of No. 9a; 4 of No. 9b; 2 of No. 9c; 12 of No. 9d; 6 of No. 9e; 1 of No. 10; 10 of No. 12; 4 of No. 12b; 6 of No. 12c; 1 of No. 13; 4 of No. 15; 32 of No. 35; 180 of No. 37a; 165 of No. 37b; 102 of No. 38; 2 of No. 48; 2 of No. 48a; 1 of No. 48d; 4 of No. 52a; 28 of No. 59; 16 of No. 63; 3 of No. 70; 3 of No. 72; 1 of No. 103; 2 of No. 103c; 2 of No. 103d; 2 of No. 103g; 2 of No. 103h; 5 of No. 109; 16 of No. 111; 1 of No. 111a; 1 of No. 111c; 1 of No. 123; 2 of No. 133a; 1 of No. 136; 1 of No. 163; 2 of No. 164; 1 of No. 186c; 3 of No. 188; 3 of No. 189; 1 of No. 190; 2 of No. 190a; 2 of No. 191; 6 of No. 192; 2 of No. 222; 1 of No. 235f.

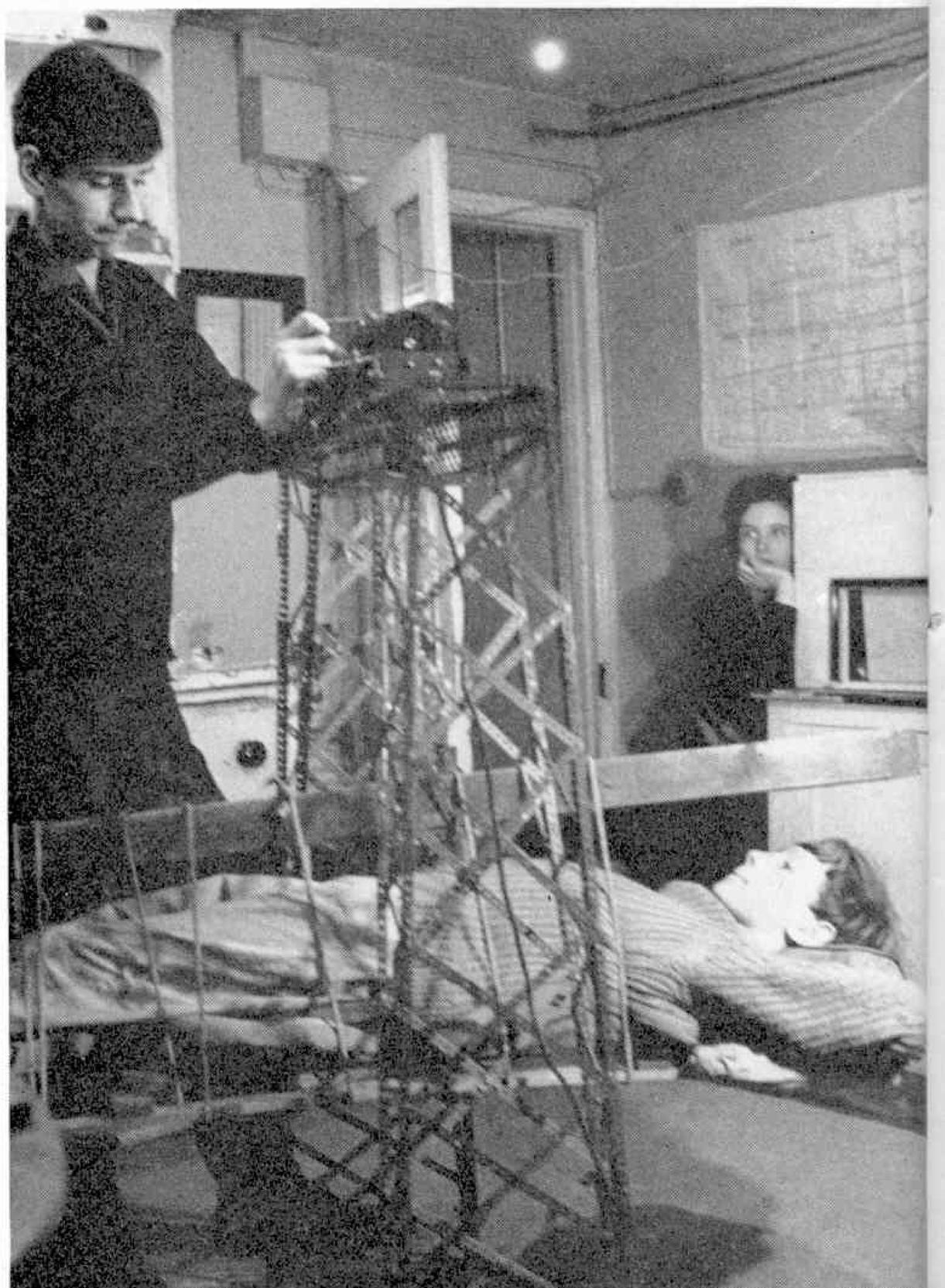
Top: The Meccano model Stone Crusher described in this article closely follows the lines of an actual machine, which is produced by a well-known manufacturer in the North-West of England.

Bottom: A rear view of the Stone Crusher with the back removed to show the rotor, or crushing mechanism.

a **Meccano** crane

Dad's answer to challenge





WOULD YOU think it possible to build a Meccano crane that would lift a boy completely off the floor? Mr. J. Pearson Gee, A.M.I.Mech.E., of Gloucester Walk, London, W.8, said he could erect one. His sons John, aged 15, and Andrew (10) said it could not be done.

'As this was clearly a challenge', writes Mr. Gee, 'I set out to prove that I could build such a crane. It was designed to lift Andrew, who weighs 6½ stone, but we found it could, in fact, lift John, who weighs 10 stone'.

'The tower was straightforward construction. The lifting tackle consisted of compound pulley blocks arranged at top and bottom with a ratio of 10:1, and using ordinary string. The pulleys tended to separate at the flanges under load conditions, but this difficulty was overcome by bolting up all the holes in the pulleys.

'The running end of the fall was led up to a simple winding drum consisting of coupling collars on a plain shaft. To the shaft was attached the large sprocket wheel with various strengthening devices to prevent the wheel's slipping round the shaft. Thereafter, a chain of gears led back to the motor through a 3-speed gearbox.

'John, in his enthusiasm, insisted on duplicating the motors and arranging a clutch connection between the two. I frowned on this, but he was able to prove that we got considerable lifting boost by running two motors in parallel.

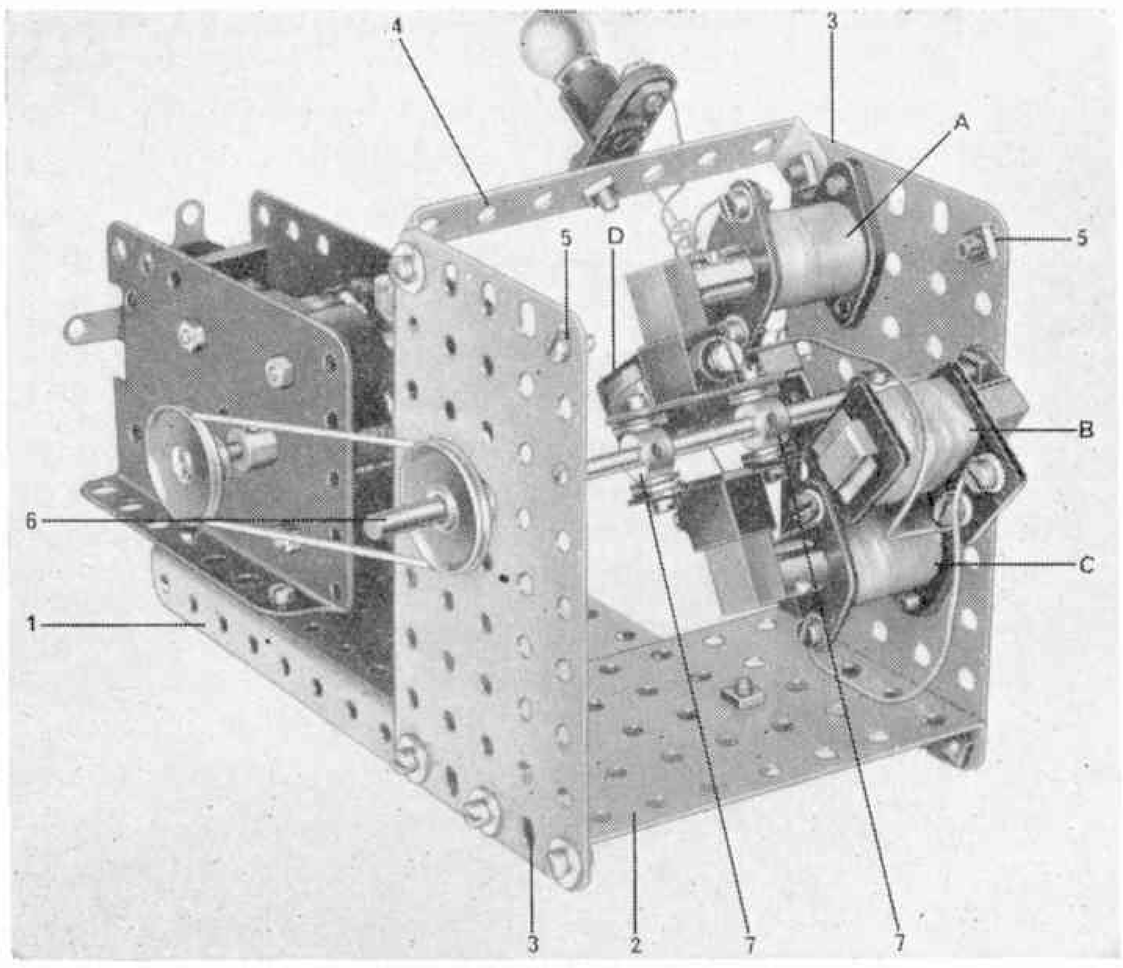
'We forgot to check the gearing ratio before taking the crane to pieces, but I think it was in the region of 400:1.'

The crane is based on the form of heavy lifters used to erect large heat exchangers in nuclear power stations. Mr. Gee has a large collection of Meccano Parts some of which belonged to his father and are 50 years old.

Our two pictures show the Meccano crane built by Mr. J. Pearson Gee in action. A wooden beam about 5 ft 6 in long is in use as a lifting frame.

by **Spanner**

Building a dynamo with Elektrikit



This working model of a Dynamo, powered by an E15R Electric Motor, is built with Elektrikit parts, and is capable of generating enough electricity to power a 12 volt 60 mA lamp. Building instructions are given on this page.

OUR RECENTLY-introduced electrical outfit, the Elektrikit, is proving amazingly popular with Meccano builders the world over. Owners have now had the time and opportunity to assess its capabilities for themselves and must have found that it revolutionises the whole model-building scene, opening up entirely new fields to the interested constructor.

In case any readers are not yet familiar with Elektrikit, I should mention that it contains a collection of small but genuine electrical parts—coils, magnets, insulated plates, pick-ups, etc.—which can be used with existing Meccano parts to build all sorts of models. Elektrikit is, in fact, specially designed to be used with an ordinary Outfit No. 3 or one larger, as is made plain in the instructions manual packed with the kit.

On the purely electrical side, this manual gives building instructions for a wide range of very interesting models, ranging from a simple switch to a complete Morse telegraph, but it also points out that Elektrikit parts can play an important role in modifying existing standard models. One example which springs to mind from the book is Model No. E36. This shows Model 4.12, a Crane out of the Meccano 4/5/6 manual, fitted with electrical Model E.5, Electromagnetic grab, and actuated by Model E.1, two-way switch. The result is fascinating. Illustrated here, however, an out-an-out electrical model, a dynamo—and what could be more electrical than that? Drive is from an E15R motor, and, when correctly adjusted, the completed model is capable of generating sufficient current to make a 12 volt 60 mA lamp glow brightly. Constructional details are as follows:—

A $5\frac{1}{2}$ in by $2\frac{1}{2}$ in Flanged Plate 1 with an E15R Electric Motor attached, is extended one inch by a $3\frac{1}{2}$ in by $2\frac{1}{2}$ in Flanged Plate 2 bolted cross-wise. The flanges of the Plate 2 have $4\frac{1}{2}$ in by $2\frac{1}{2}$ in Flat Plates 3 bolted to them. Two $3\frac{1}{2}$ in by $\frac{1}{2}$ in Double Angle Strips 4 are secured to the top of the Flat Plates. One of these is not shown in the illustration but, when fitted, it is secured by Nuts and Bolts 5. A 5 in Rod 6, on which is fixed a 1 in Pulley, driven by a 1 in Pulley on the armature shaft of the Motor, is mounted in the Flat Plates, and a 6 in Driving Band is fitted around the Pulleys. Two Magnet Holders are fixed to two 4-hole Collars 7, but spaced away from the Collars by two Washers on each Bolt. Grub Screws fix the Collars to the Rod 6. Permanent Magnets are securely fixed in the Holders, so that, in one case, the north pole projects while in the other the south pole projects. Attached to a Flat Plate, in the position shown, are two Cores for Cylindrical Coil (slotted), and on these are placed Cylindrical Coils which are secured to the Flat Plates by Bolts. Two Rectangular Coils, with base, complete with Core and Core Holders, are attached to the Flat Plates by Angle Brackets. It is important that the air-gap between the Coils and Permanent Magnets be made as small as possible.

To wire the model, connect the 'E' terminal of coil A to the 'S' terminal of Coil B, the 'E' of Coil B to 'S' of Coil C, the 'E' of Coil C to the 'S' of Coil D and the 'E' of Coil D to the Lamp Holder. The 'S' of Coil A is connected to the other terminal of the Lamp Holder, and Collars are placed on each side of the Flat Plates. When the Motor is running at full speed, and the air gap is properly adjusted, sufficient current will be generated to light the lamp.

Parts required to build the Dynamo:—Standard Meccano Parts:—2 of No. 12; 1 of No. 15; 2 of No. 22; 28 of No. 37a; 33 of No. 37b; 16 of No. 38; 1 of No. 52; 1 of No. 53; 2 of 53a; 2 of No. 59; 2 of No. 111a; 1 of No. 111c; 2 of No. 140y; 1 of No. 186a; 1 E15R Electric Motor. Elektrikit Parts:—2 of No. 520; 2 of No. 522; 4 of No. 525; 2 of No. 526; 2 of No. 527; 2 of No. 537; 2 of No. 538; 1 of No. 539; 1 of No. 540c; 1 of No. 558.

by **Linesman**

Building a paper world

IN MY notes on building scenery, I shall try to give you basic facts of construction so that you will want to take up scenic modelling yourself and find how very enjoyable it is.

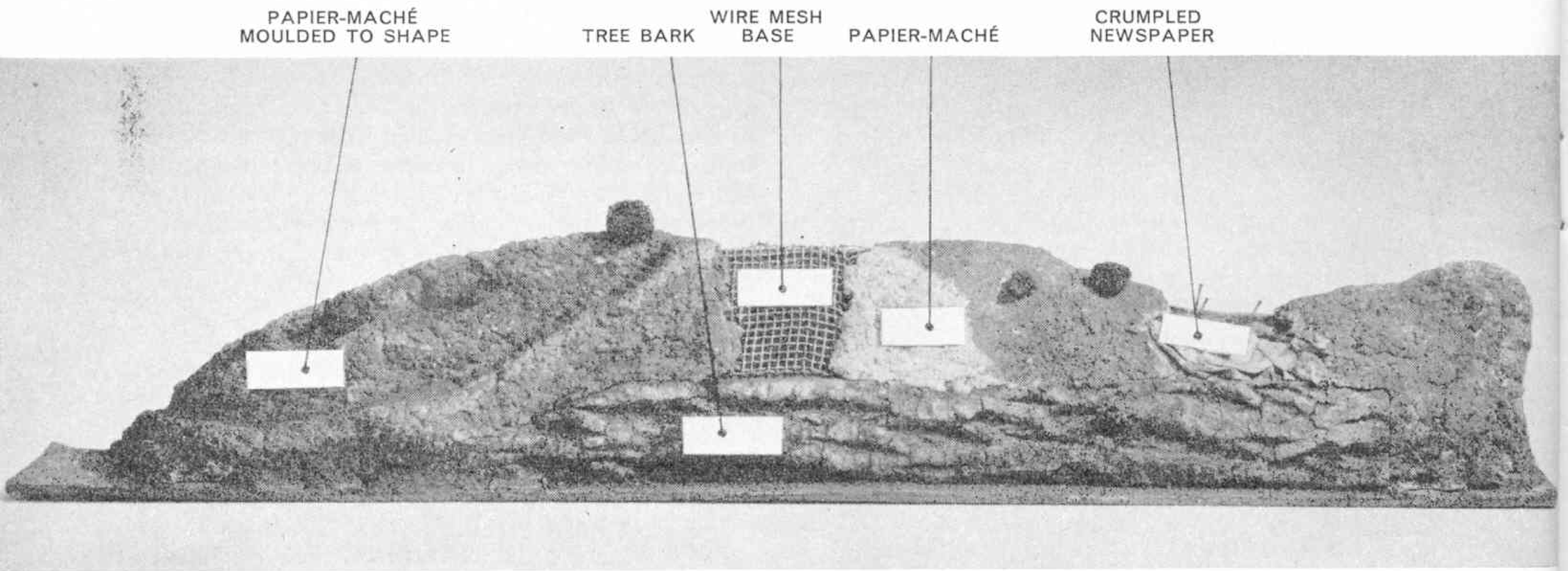
As I told you last month, one of the most popular methods of building scenery is to use *papier-maché* and I felt that many of you would like me to describe this method in detail.

The basic principle of making *papier-maché* is that newspaper torn into strips is boiled in water to which glue-size, which has been prepared in advance, and plaster, have been added. The newspaper should be torn into very small strips and placed in a saucepan big enough to hold two pints of water, and that amount of water should then be poured into the pan to cover the surface of the paper. You will find that you can probably get four sheets of torn newspaper into the pan, and that the two pints of water will allow for some to be boiled off during the process. The mixture should be boiled for about a quarter of an hour and then the glue-size added. To make glue-size, simply add one part of water-base glue to eight parts of water. You can buy water-base glue at ironmongers and decorators' shops.

The mixture need only be approximate, as a little more glue will have no effect on the final result. Two cupfuls of this solution should be added to the mixture of torn newspaper and water, and a rule of thumb method for deciding what quantity of the mixture to add is simply one cupful to every pint of water used.

Now we come to a further important step. After cooking the mixture for another five minutes, a quantity of plaster should be poured in. Considerable latitude is allowable in the quantity of plaster added to the *papier-maché*. This is due to the different qualities of plaster on the market. The simple mixture I made had Polyfilla in it, but Alabastine would be just as suitable. Avoid, at all costs, the quick-setting plaster sold by builders' merchants for coating walls; this is quite unsuitable for our purpose as it has a marked tendency to become lumpy and unworkable. It is also likely to crack when dry. You can, of course, use any other plaster that is slow-setting and durable.

The plaster is added to the mixture neat, not mixed with water. The exact quantity of plaster is not significant provided that a cupful is used for every pint of water which was added to the torn newspaper at the start. The mixture—newspaper, water, size and plaster—should be cooked for another ten minutes or a quarter of an hour and during that time it should be mixed very thoroughly to ensure that all the ingredients are thoroughly intermingled. The newspaper should by this time have long ceased to look like newspaper and should instead resemble a creamy, lumpy substance. When the mixture has been boiled for 30 minutes, the surplus water can be emptied from the saucepan and



List of materials: 2 pts of water; 4 sheets newspaper; 2 cups of glue-size; 2 cups plaster.

the finished *papier-maché* taken out. Give it a good squeeze to get rid of any surplus water.

One of this month's illustrations shows a section of scenery built with the type of *papier-maché* described here. Parts of the scenery have been cut away to show various stages in the construction of the hill, from the basic wire mesh to the finished job. An alternative to this is shown on the right hand side of the illustration where, instead of wire mesh being used, crumpled paper has been placed between the backing board and the cliff face. The *papier-maché* is then spread over the top of the crumpled newspaper.

The cliff face at the front of the layout is made of cork bark which can be bought from most good model shops. Alternatively, it can be obtained from its source—the tree. If you decide on this method, strip from the tree only the quantity of bark actually required. I would suggest you boil the bark in water for 15 minutes before placing it on a layout. This will kill off any insect life in the bark and ensure that the baseboard does not suffer from woodworm, death watch beetle or other natural catastrophe.

The front of the cork bark can be touched up with a strong mixture of plaster if desired, but I prefer to use it in its natural form and then paint it.

A touch of colour

Many people have the mistaken idea that painting scenery is a form of artwork, and requires a lot of skill; but in fact, it has little to do with art, in its truest sense. In fact there could be a case for saying that the less precision you use, the more realistic the result may be. This point is easily proved; I urge you all while on holiday this summer to look carefully at the colours of earth on hillsides. You will almost certainly find that plain bare earth is not first a monotone, but varies in shade over a number of basic colours.

The ground colours can be represented on your layout by various shades of brown. Burnt umber, raw umber, and Van Dyke brown are all excellent earth colours, and can be bought in tubes and tins from art shops, Two other colours which are used to represent earth are burnt sienna and raw sienna. The five colours mentioned can be mixed together to form an infinite number of shades, and I would suggest a little experiment. Using the two umber and Van Dyke, brown paints, squeeze a little of each on to a pallet, or a piece of white plaster, and then mix the three paints in varying quantities to discover the different shades that can be obtained.

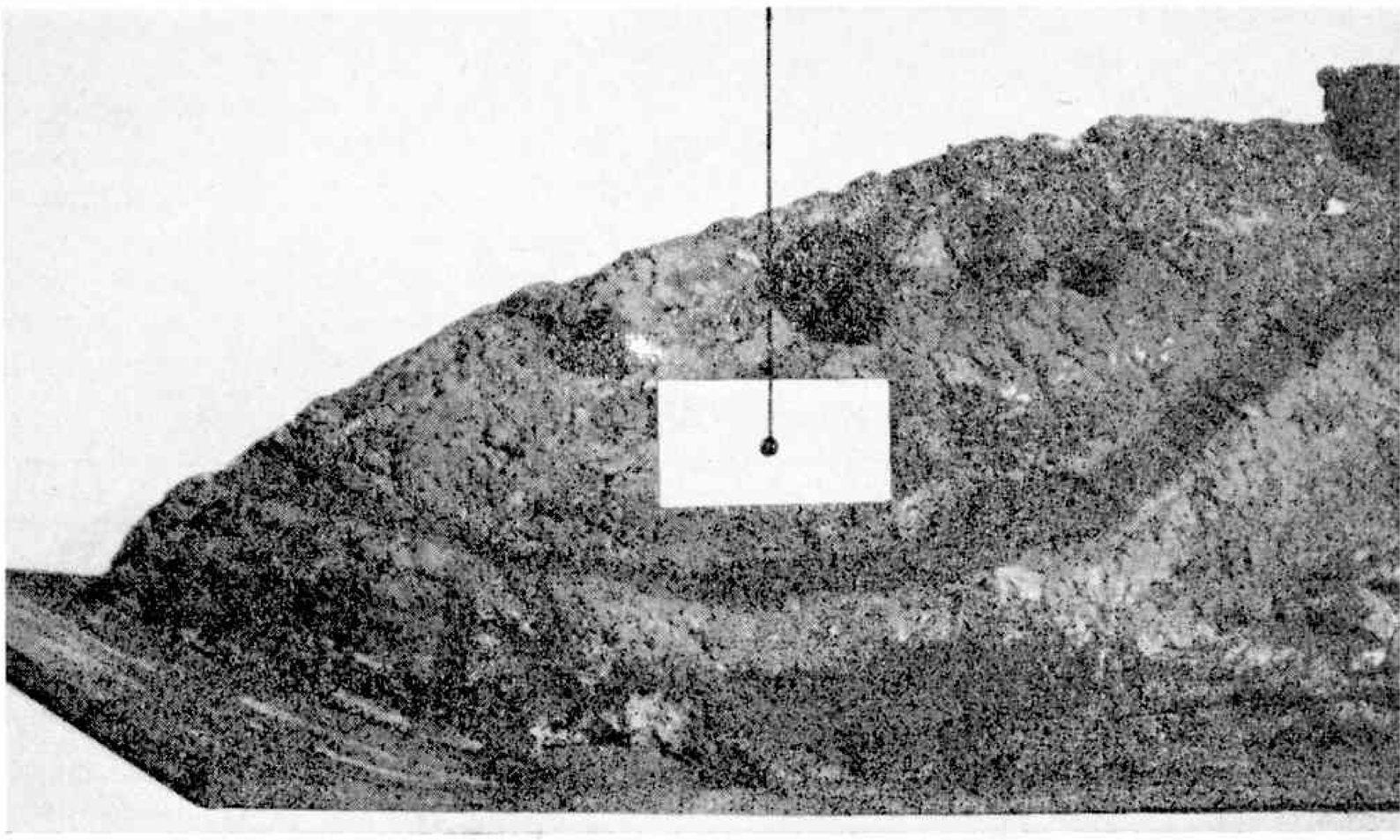
When you are ready to mix the colours for actual use on the plaster I would suggest you adhere to the following procedure. Squeeze a little of each paint into a different lid and add turpentine carefully to all three, making sure that the mixture is not too watery, The idea is to produce a stain that will spread freely over the plaster without recourse to brushing, but which has sufficient body to colour the plaster adequately, without an under coat being necessary. The method I employ at this stage is to cover the scenery with raw umber paint, and then to accentuate any highlights with Van Dyke, and other, browns to represent different shades of earth. I would, however, be inclined to let one colour predominate and to use others simply to avoid monotony Do not overdo the mottling process, as this can look just as ridiculous as earth of one colour. When you are modelling the banks of a stream or river, remember that an effective mud colour is Van Dyke brown which is deep, almost black brown. It suitably represents wet muddy spots, low ground, ditches and dank places under overhanging rock.

I will delve a little more deeply into painting in next month's article, which will also cover tree construction and associated subjects. I also hope to include a table giving the shades of colour required for different types of ground. This could prove invaluable to those who are not quite sure which colour to use in different situations.

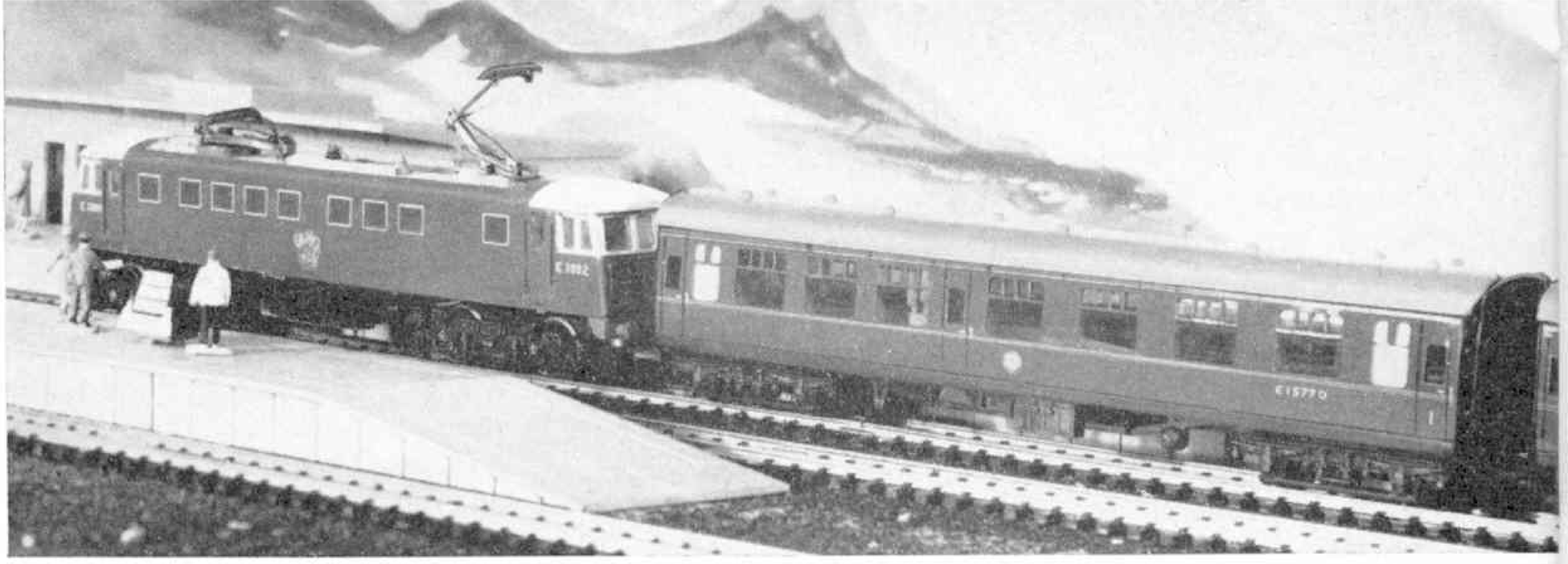
Left: A section of scenery looked at from the front showing various stages in the construction of a hillside. The material employed is clearly marked. Attention is drawn to the fact that either wire mesh or crumpled newspaper may be used as the supporting material.

Right: This close-up part of the scenic section seen at the bottom of the page shows a pathway leading to the top of the hill. Readers should note the way in which *papier-maché* has been moulded into steps on the upper part of the pathway.

PAPIER-MACHÉ
MOULDED TO SHAPE



by **Layoutman**



Electric Locomotive E 3002 heads an express into a station

A striking new Hornby model

THE ELECTRIC locomotive shown here at the head of a train is a fine new addition to the Hornby-Dublo range. You will remember that we heralded its appearance with a photograph and brief details in February's 'What's New'. Now we can tell you a good deal more about it. It represents the LMR type of 3,300 hp electric locomotive working on the 25 kV overhead-wire electrified system which extends from Crewe to Liverpool, to Manchester and to Stafford, and is being extended along the rest of the LMR main line southward. The exterior design of the locomotive is simple, yet modern and thoroughly practical. In its attractive blue and white livery, the Hornby model faithfully captures the lines and the finish of the real locomotive.

A point of special interest is that while it can be operated in the normal way, the new locomotive is fitted with working pantographs, and so the engine can be run on railways equipped with a working overhead-wire system. When this is done, remember that the trailing pantograph is always the one that is raised when the locomotive is in action. When the engine is reversed, the pantograph should be changed over, as in real practice. The letters A and B are marked on the cab roof near to the respective pantographs. When the locomotive is running A first, the pantograph at the B end should be used, that at the A end being lowered. Similarly, the pantograph at A should be the only one raised when the locomotive is running B first. This ensures that the pantograph in use is trailing, not pushing.

It is easy to raise or lower the pantographs, but it is important that this should be done by moving the 'elbow' of the pantograph fitting, *not* by grasping the collector member or the components that make up the hinged sections of the pantograph. This miniature fitting resembles the Stone-Faiveley type of pantograph used on the real locomotive.

Each of the Hornby-Dublo models carries an additional item on the roof between the two pantographs. This is a small electrical plug which has to be placed in one or other of two sockets, according to whether the engine is being run with the pantograph actually operating from an overhead wire system, or simply from the track pick-up on a normal two-rail layout. The two sockets are marked 'P', for pantograph operation, and 'T' for track.

When the locomotive is being run through the track pick-up on a two-rail layout, it is operated in the same way as any other two-rail locomotive. If either of the pantographs is used, then one of the running rails of the two-rail layout must be used as a common return, both for the overhead supply and the rail supply. Remember: the same rail must be used throughout the system. To help matters in this direction there is on the underframe of the locomotive a raised letter C, which indicates that this side of the engine must always be above the common rail.

When operating the new locomotive in this way from an overhead supply, another loco taking current from the rails can be in use on the same main section of track. In such circumstances, each locomotive must have its own power supply and control unit.

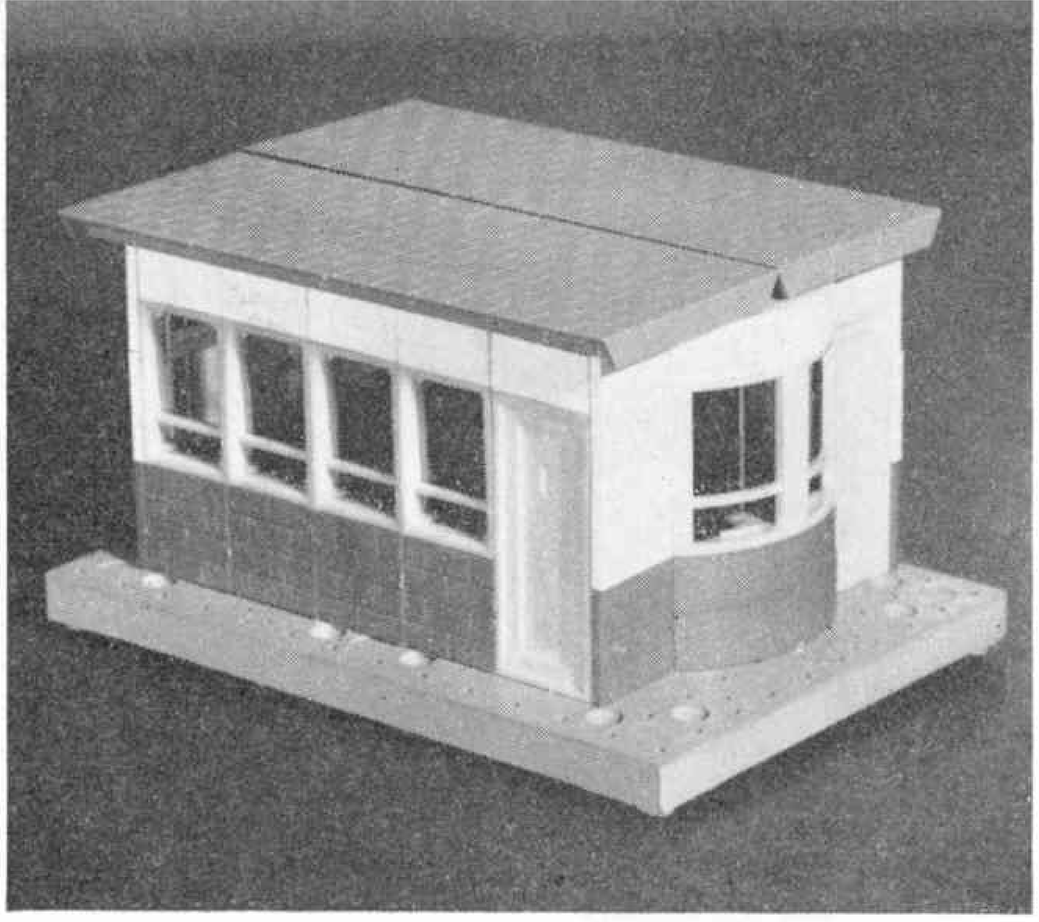
When the No. 2245 Locomotive is being operated from track pick-up, it can be run through a reverse loop on a layout, so long as the usual switching arrangements are employed, but when the engine is being run with the pantograph in contact with an overhead wire supply, it must not be run through a reverse loop or any other arrangement which allows it to re-enter the same section of track, but in the opposite direction.

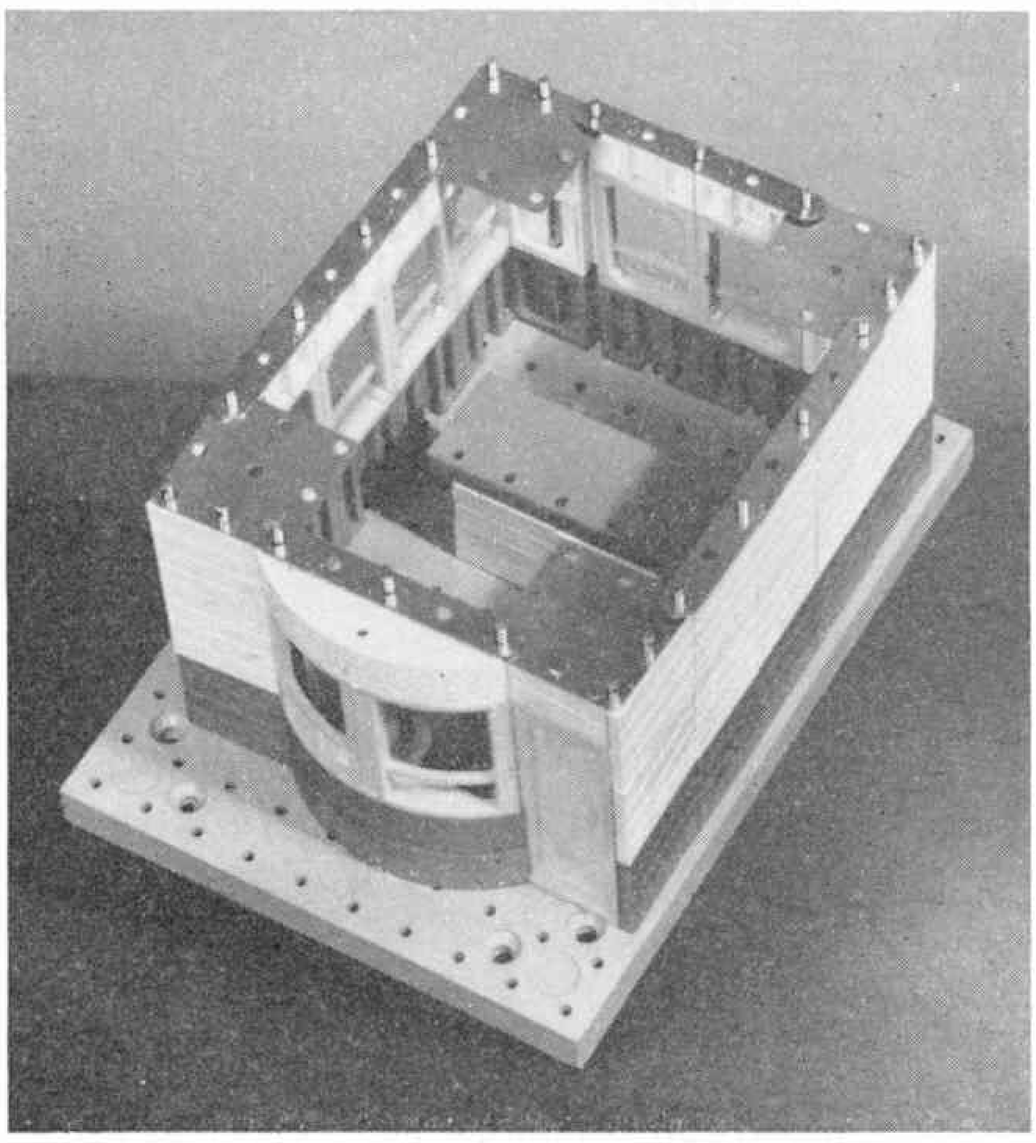
Hornby-Dublo Contest winners. Winner of the recently-held Hornby-Dublo Trains competition for boys is Andrew Robert Farthing, age 13, of Farrier Street, London, NW1. His award is a prize to excite any Hornby-Dublo enthusiast—a £100 selection of Hornby-Dublo goods including a layout measuring 8 ft by 4 ft 6 in.

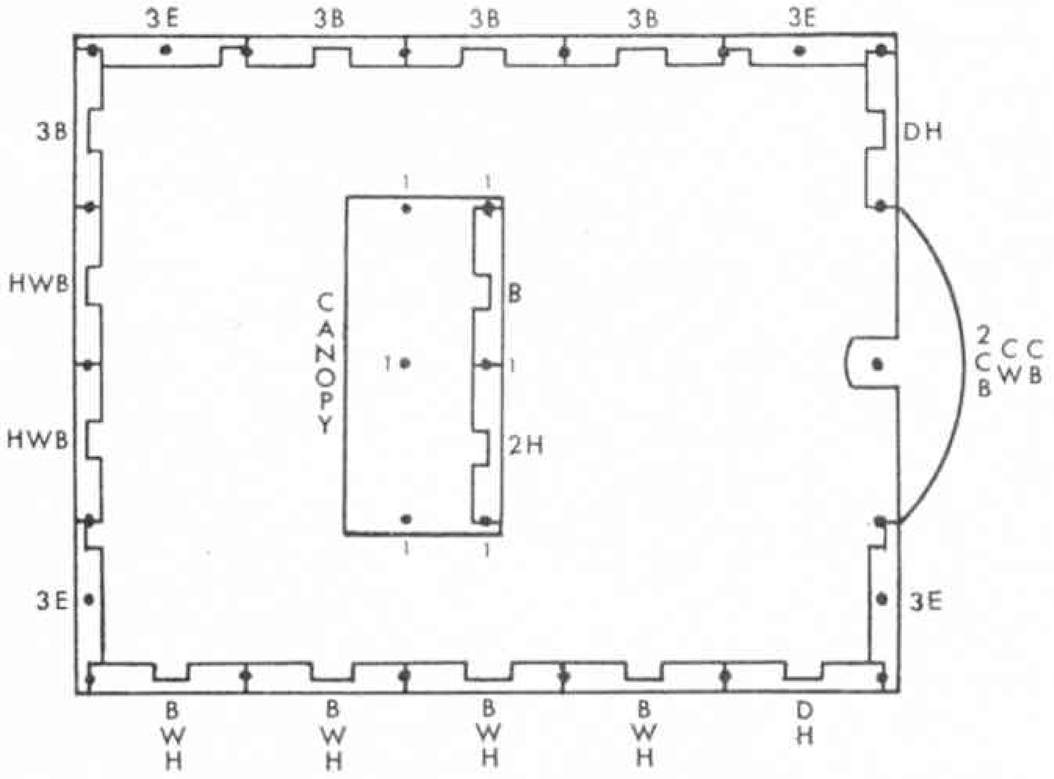
The competition was open to boys who had purchased any one of fourteen nominated train sets from an accredited Meccano dealer in 1963, and to win the prize the entrant had to give three short reasons why he preferred Hornby-Dublo Trains to those of other makes. Andrews' three reasons were: (1) The best *buys* are Horn-*by's*. (2) I double my pleasures with Dublo treasures. (3) Their Realistic Railway Replicas are the '3 R's' for boys. There was a very large volume of entries. Second prize of £75 worth of Hornby-Dublo goods (including a layout 6 ft by 4 ft) goes to another 13-year old, Charles de Lacy, of Ethelbert Road, Wimbledon, London SW20.

There were eight third prizes, and these were awarded as follows: Colin Vicary, Union Street, Portadown, Armagh, N. Ireland (9½); Ian Charles, Church View, Banbury, Oxon (6); Michael John Somes, Bush Grove, Stanmore, Middx. (12); Peter Free, Victoria Road, Cirencester (10); Percy Matts, Pine Road, Glenfield, Leicester (11); Stephen Richard Harman, Church Street, Durham City (7); John Holt, Eldon Street, Bolton (9) and Peter Stringer Ormerod Road, Stoke Bishop, Bristol 9 (8).

Combined shop and office







The completed model (top) and (lower picture) a view showing the model with the roof removed. Note the sales counter, or desk.

IN THIS series I am anxious to help all Bayko builders, young and old, with small outfits or big ones. And so, as a follow-on to last month's large model I give here a plan and photographs of a building that can be put together by owners of Outfit No. 11. It is based on the small combined shops and offices that can be found at many of the modern filling stations that are springing up throughout the country. The type of thing I have in mind is peculiar to filling stations and is rarely, if ever, seen at fully-fledged garages.

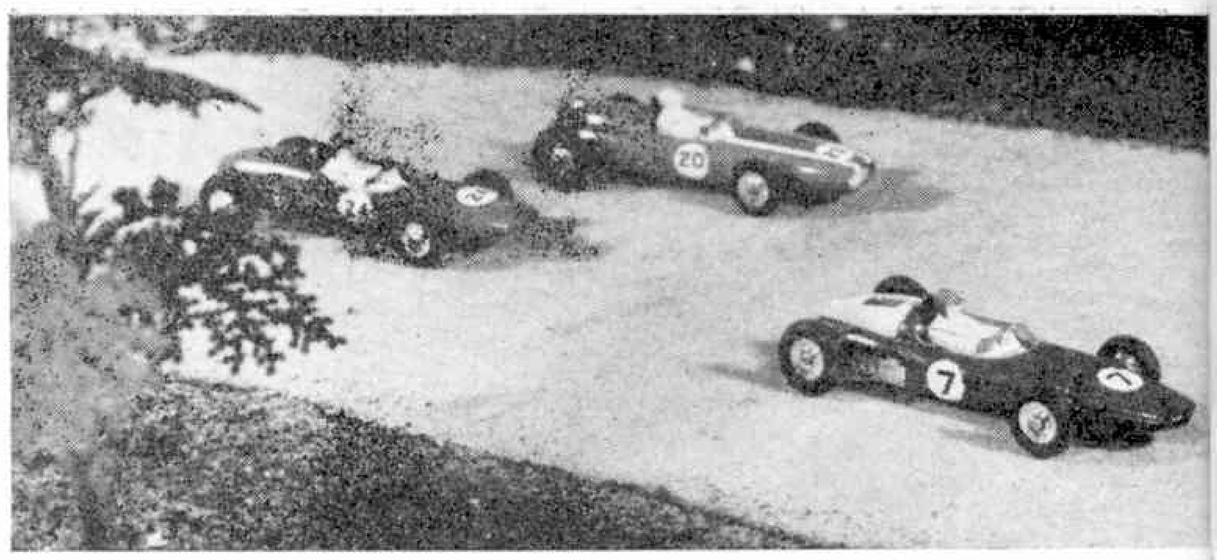
Let me admit at once that it is not a perfect replica. The original building has much more window space generally, but no bay window. The number of parts in the Outfit did not allow me to reproduce the prototype exactly, but the basic idea is represented.

Inside, the building is equipped with a sales counter or, if you wish it, a desk, built up from six No. 1 Brick Rods, the front three of which hold one Brick and two Half Bricks in position. The counter top is simply a Canopy, as can be seen from the illustration of the partly completed building. Except for these six No. 1 Brick Rods, No. 3 Brick Rods are used throughout the model.

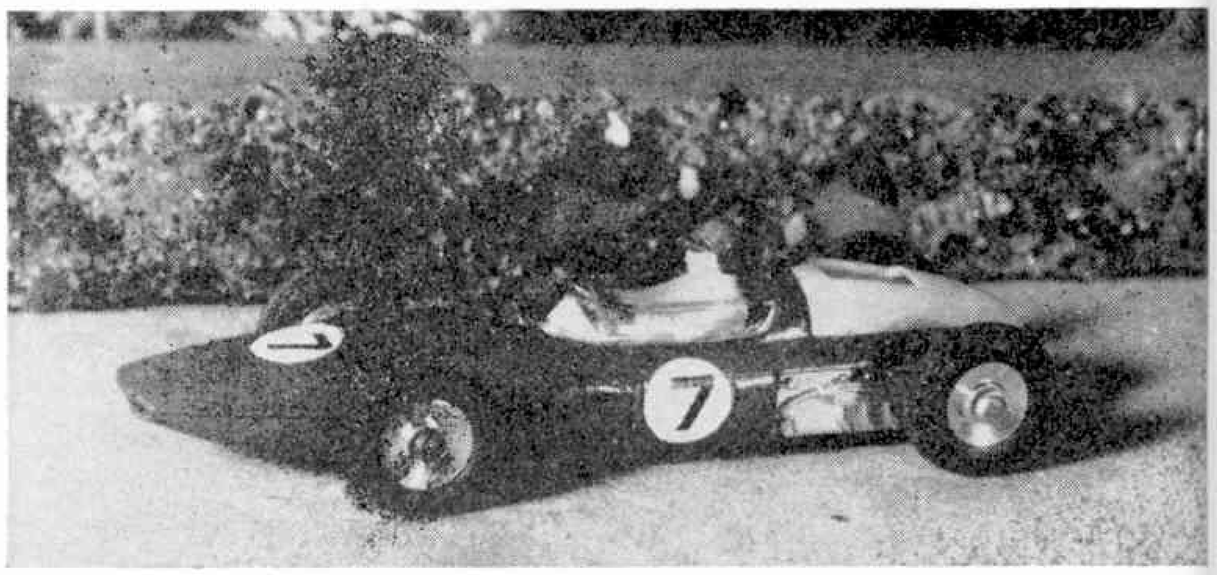
You will probably have noticed from the pictures that the windows are upside down. Let me hasten to assure you that this is not a mistake. They were purposely inverted because I felt they looked much more realistic that way, bearing in mind the type of shop in which they are meant to be fitted. You may well have your own views about it, of course.

Parts required.—1 Base; 10 Red Bricks; 9 White Bricks; 2 Red Curved Bricks; 1 White Curved Brick; 4 Red End Bricks; 8 White End Bricks; 10 White Half Bricks; 6 No. 1 Brick Rods; 22 No. 3 Brick Rods; 1 Canopy; 2 Doors; 6 Glazing Materials (Window); 1 Glazing Material (Curved Window); 2 Roofs, Type A; 4 Corner Ties; 6 Straight Tie Bars; 6 Windows; 1 Curved Window.

Dinky Toy news
by Toyman



A new racing car . . . . and a



FULL SIZE Formula One racing has been collecting a bigger and better following with each passing season until, to-day, it is by far the most popular branch of the motor racing sport. It seems, also, that Formula One racing in the miniature field is leaping forward in popularity, and perhaps the three racing cars which Meccano Limited have produced over the last year have had something to do with this. These were the Ferrari No. 242, the Lotus No. 241, and the Cooper No. 240. Now I can announce still a further model, due for release this month, which becomes the fourth member of the Dinky racing 'stable'—the BRM (No. 243).

BRM are among the most successful competitors in Formula One racing. In 1962, for example, they won the Constructors' Challenge Trophy, thanks to Graham Hill, the World Champion Driver of that year, who drove a BRM to victory. The car on which our model is based is powered by a V8 engine, itself produced by BRM, which has a cubic capacity of 1,498, and develops 190 bhp at 10,000 rpm. Approximate overall dimensions are: length 12 ft 3 in, height 2 ft 11 in, wheelbase 7 ft 6 in, front track 4 ft 4½ in, rear track 4 ft 4 in. This exciting car is fitted with disc brakes on all four wheels, and has all-round independent suspension. Twin straight exhausts, protruding backwards, are attached, I mention this because an earlier version was equipped with eight upward-pointing exhaust pipes, four pipes to each cluster, known as 'chimney' exhausts, these gave the BRM such a distinctive appearance that, unless you know of the change, you might not be able to recognise the existing version. The above specifications, incidentally, are for works cars only.

Considering the capacity of the engine, which is no bigger than that of many private cars, it is amazing to think of the power it produces.

Returning to the Dinky replica, this has all the features of our other Formula One models—windscreen, seats, steering wheel, driver and suspension. There is also a removable engine cowl, giving access to a detailed engine. The cowl has a rectangular hole in it, which, on the prototype is covered by a fine metal gauze. It would not, understandably, be practicable to reproduce this on the model. Finish is green, with a yellow engine cowl.

The BRM, however, is not the only new model scheduled for release this month. Our top picture shows a much sought-after replacement for the old Breakdown Lorry first introduced to the range many years ago, and it will certainly bring this side of your collection up to date. Its name? The Bedford TK Crash Truck, numbered 434 in our lists.

It is not a general purpose breakdown vehicle, although it can be used as such, but actually represents a motorway recovery wagon. Anyone who has travelled on, say, the M2 or the M6 will probably have seen the type of vehicle on which it is based, and will no doubt recognise the Top Rank Motorway Services transfers it carries. More about these services later; in the meantime a few words about the Bedford TK range. The chassis—there are several different kinds—mark a completely new



Top left: The new Dinky BRM leading the field in a 'table top' Formula One Grand Prix.

Bottom left: Dinky Toys No. 243 BRM latest addition to the miniature Formula One racing car range.

Top right: In this scene the new Bedford TK Crash Truck gives assistance to a stranded motorist.

Bottom right: An artist's impression of the luxury restaurant with 80 ft observation tower at present being built for the Top Rank Organisation at Forton on the M6 Motorway.

modern crash truck



approach to the design of forward control trucks. The engine is located not in the cab, but in a separate compartment behind it. Consequently the design of the cab was dictated only by the requirements of the driver and his mate, and it is now generally agreed that the TK cabs are amongst the most spacious and comfortable of any commercial vehicle on the road. The TK range covers payload ratings ranging from 3 to 8 tons in addition to four heavy tractor units.

With all models there is choice of highly-developed Bedford diesel or petrol engines, and in addition most can be had with the choice of a four or five-speed gearbox. The latest versions have 'triple safety' brakes, incorporating extra-thick drums, and a newly-designed servo-assistance which calls for only light pedal pressure. In general, it is safe to say that the Bedford TK's are in the front line of British commercial vehicles, all of which have a world-wide reputation.

The Dinky Toys model is equipped with window, seats and steering wheel, and is finished in white with silver fittings.

The famous emblem of the Rank Organisation appears on each cab door and along each side, and the back of the body, are the words 'Top Rank Motorway Service' in white letters on a green background. The towing hook is operated by turning a knurled wheel on the winch jib. Now a few final words about the service areas I mentioned earlier. By the middle of 1965, the Rank Organisation tell me, they will have three Top Rank Motorway Service Areas. There are two already in existence. The first, opened in May, 1963, is the Service Area at Farthing Corner, on the M2. The second is on the M6 at Knutsford and features a special Lorry Drivers' Cafe opened in November 1963.

The third Motorway Service Area is to be at Forton in Lancashire, also on the M6. This, it is claimed, is by far the most exciting Service Area, architecturally envisaged by anyone. It mainly features an 80 ft tower, on which will be the main restaurant, and guests will be able to look out over Morcambe Bay on one side and the Pennines on the other.

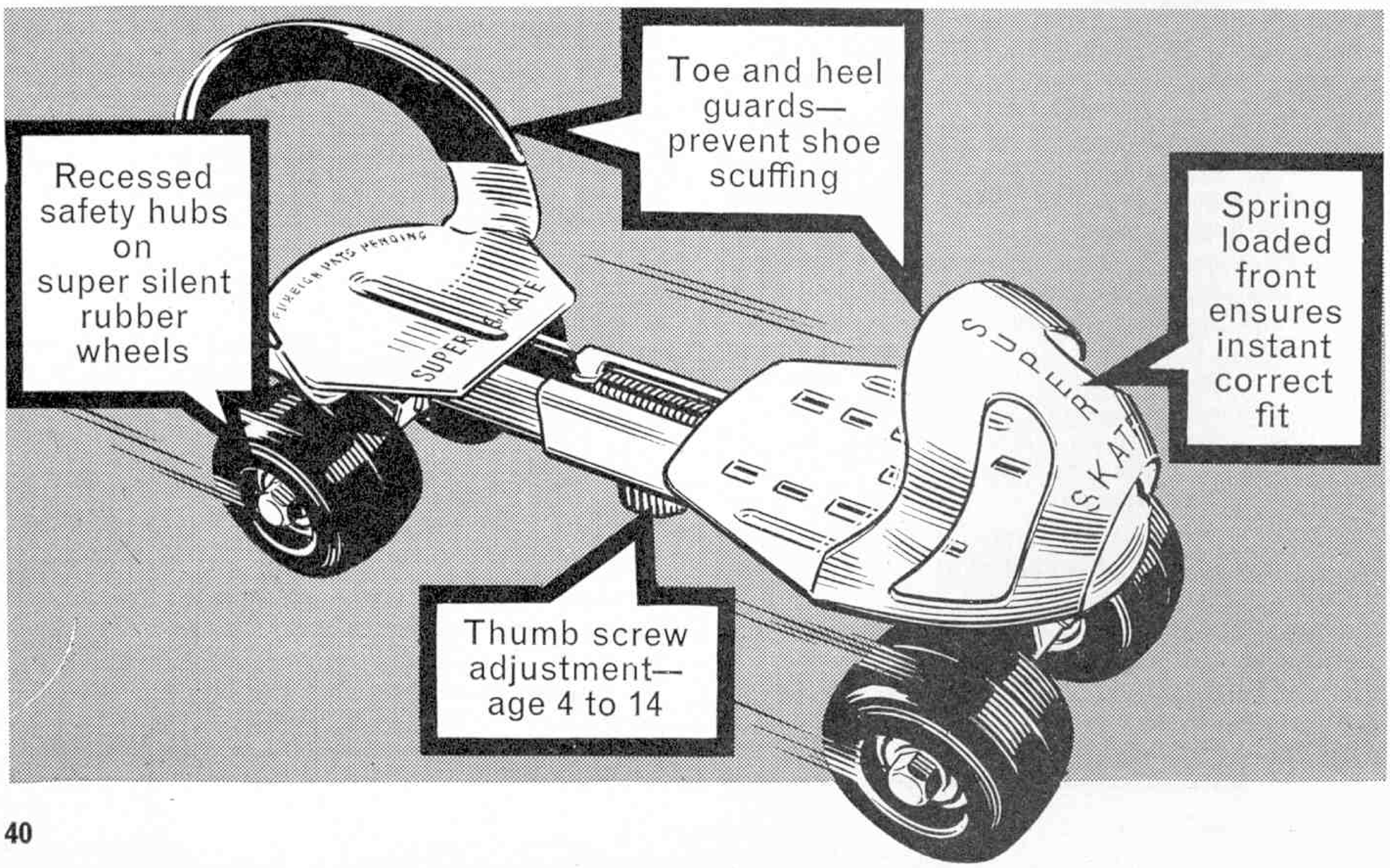
At all Motorway Service Areas a full breakdown service is maintained, and the breakdown vehicles are painted in the now familiar green and white Rank Organisation livery. They vary from small light vans used for taking tyres or cans of petrol to stranded motorists, through the 15 cwt range up to 4-ton heavy breakdown vehicles. It is probable that with the advent of 20-ton and 30-ton trailer-type heavy goods vehicles, using the Motorways like railway tracks, Top Rank will bring much bigger breakdown vehicles into service.

A representative of Top Rank writes to tell me, 'As Motorways become more and more used, the Rank Organisation will remain very much aware of the communication problem. We may well see the use of Rank-Bush Murphy closed circuit television systems and short wave radio to help with the administration of Motorway Service Areas'.

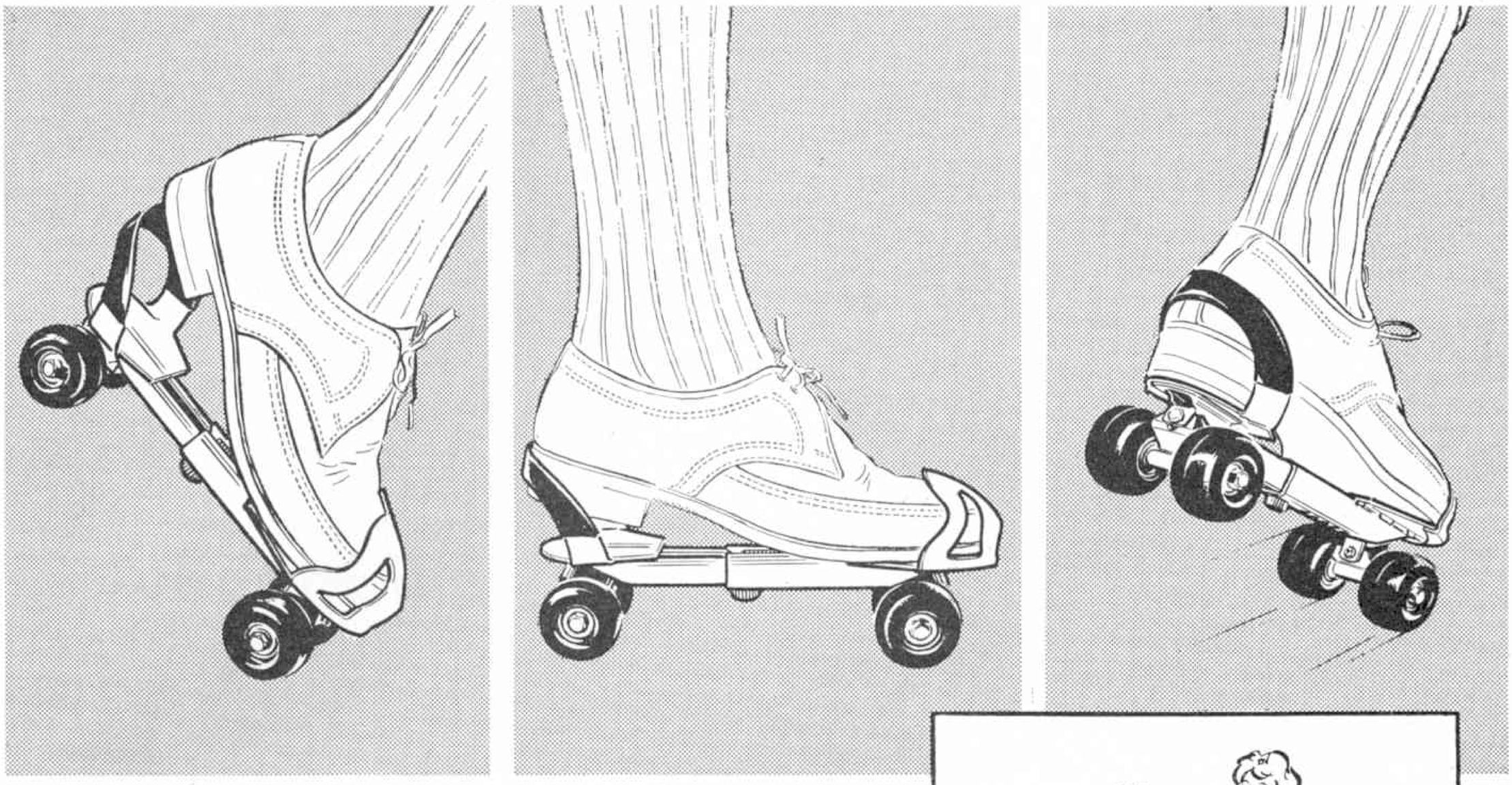
NEW from Meccano

Super-Skates

A REVOLUTIONARY SKATING IDEA FROM AMERICA



slip on...push...click, and you're away



Pick 'em up, click 'em on—skate. Just seconds from opening your Super-Skate carrier you can be skating—no straps, no keys needed—the toe slides in, the back clicks firmly into place and you're Super-Skating. Super-Skates with spring loaded toe guards *cannot* come off accidentally. The unique securing feature ensures that skate and foot are as one. Super-Skates are built to last, they need no maintenance and no oiling.



See 'em
try 'em
buy 'em...
Super-Skates
are only 49/6

SUPER-SKATES ARE THE ONLY NO-STRAP NO-KEY SKATES IN THE WORLD

Super-Skates are made and guaranteed by Meccano

Trade enquiries invited

CLASSIFIED ADVERTISEMENTS

Readers Sales and Wants

If you have anything to sell or wish to buy anything, take advantage of the service offered by a small advertisement in these columns.

The M.M. is read by over 100,000 people every month. It circulates in every country where the English language is spoken. If you wish to sell your stamp collection, your rabbits, or your tools, or to purchase a steam engine, a model yacht, or a hundred-and-one other things, you will be able to do so through the columns of the M.M.

The rates are 3d. per word, with a minimum of 3s. (cash with order). Readers' advertisements are published as soon as possible, inclusion in the first issue after receiving them, however, cannot be guaranteed.

WANTS

• Pre-war part No. 167, Geared Roller Bearing. State condition and price. Also pre-war supermodel leaflets, especially No. 4. Will pay or exchange for Nos. 1, 2, 35, or Standard Mechanisms. Moberly, Paddock End, Manor Park, Whyteleafe, Surrey. Tel. Uplands 8864.

• Meccano parts 104, Shuttle for Looms, and 105, Reed Hook. State prices and condition. E. G. Frost, Lingfield, Birdingbury, Nr. Rugby.

• Hornby gauge 0 electric "Bramham Moor" 6 V in working order, also L.N.E.R. Bogie Coaches. Stobbs, 12 Rook Street, Lothersdale, Keighley, Yorks.

• Any obsolete parts and literature. All offers considered. Each welcome letter answered. FEA, 43 Rue Smolett, Nice, France.

• Collector requires Meccano Motor Car Constructor No. 2. Must be good condition. Will pay your price. D. Leader, 114 Pierrepont Road, West Bridgford, Nottingham.

• Hornby No. 1 Special Tank Loco (working order preferred), Battery Driven Gauge 0 Loco, Chad Valley Merlin or similar. State price. Boyle, 23 Barbauld Street, Warrington.

• Obsolete early Dinky Toys. Your price if undamaged. Very high price for Chrysler Airflow. Lists to: Pinnock, 6 Stream Farm Close, Lower Bourne, Farnham, Surrey.

• Large collection Meccano Parts and Accessories. Price and details to: Bishop, 4 Devonshire Close, Dore, Sheffield.

• No. 10 Meccano set. Good condition R. Freeman, 25 Church Hall Rd., Rushden, Northants.

• Wanted for cash: "M.M.'s" before 1928, 1930-1933, 1947-1952. Apply: Lub, 112 Kilkenny Court, De Villiers St., Johannesburg, South Africa.

• Wanted. £4 offered for obsolete Geared Roller Bearing, No. 167, in good condition; or two Geared Roller Races, No. 167a, and Pinion, No. 167c, considered. "M.M.'s" May 1950-August 1951, in good condition, also wanted. A. Parmee, 20 Farm Grove, Rugby, Warks.

• Any Scale Model Cars, Dinky, Corgi, solids, etc.; good prices paid for suitable models, especially required pre-war models. R. Mitchell, 49 High Street, Queensbury, Bradford, Yorks.

• Wanted: Tri-ang T.T. Locos, Coaches, Wagons, Type A Track; price and condition, Box No. 1000.

• Foreign Cigarette Packets wanted. Write: Anthony Mellor, 5 Wheathill Rd., London, S.E.20.

• Dinky Toy Buses; good condition; pre-war and obsolete. Aspinell, 60 High St., Sutton, Surrey.

• Wanted: Hornby Catalogues, especially Hornby Book of Trains of the late 1920s. High price paid for copies in good condition. Dudman, 85 Duckmoor Road, Ashton, Bristol 3.

• Immediate cash by return for pre-war and obsolete Dinky Cars and Aircraft, especially Biplanes; also for French Dinky Cars and Aircraft, both obsolete and for those not available in England. Also pre-war Catalogues. D. J. Dixon, 15 Cheddon Road, Taunton, Somerset.

• Wanted, good condition, Dinky Toy Morris Oxford. Write to D. I. W. Lee, "Glenfield", Ward, Marlborough, New Zealand, stating condition and price.

• Pre-war Dinky Fiat 500; also any pre-war or early post-war models, Dinky or other makes, pre-war Dinky Catalogues, etc. P. J. Willdigg, 36 Wheeleys Road, Edgbaston, Birmingham 15.

• Robin Hood Story Booklets, published approximately 40 years ago. State price per copy. L. Bradley, Seymour Arm, Sicamous, B.C., Canada.

SALES

• Hornby, 2-rail two Locos, Coaches, three Points (one electric), Track, good condition. Taylor Cringle Carr, Helmsley, Yorks.

• For sale. Miscellaneous "M.M.'s" 1942-48, all 1949-51. Meccano Set 9, plus Motor, extras. Cigarette Cards. Trains Annual 1950-51. Trains Illustrated, all March 1950 to December 1955. Offers to: R. Ogden, 22 Limefield Rd., Smithills, Bolton.

• E.D. 2·5 c.c. W/C Racer; 1·5 c.c. Elsin; both £2/10/0. 950 British Commonwealth Stamps, 210 German—£6; Cat. value £20. Phone: PRO 0830.

• Bargain—10 Chemicals for 3/6 (p. & p. paid); Experiment notes 1/6. 2 Murgatroyd Street, West Bowling, Bradford 5, Yorkshire.

• A selection of Dinky Toys, Corgi Toys and Matchbox Toys for sale. Send S.A.E. for list. D. Vick, Dept. B, 13 Badshotlea Road, Farnham, Surrey.

• "M.M.'s" 1947 (except January, March, June), 1948, 1949 (except December), 1950-1952. Odd copies 1953-1955. Offers. Also, obsolete Dinky Toys. S.A.E. for list. Jackson, 44 Chiltern Crescent, Earley, Reading, Berks.

• "M.M.'s", mint, May 1958 to April 1962 (51 editions), 25/-; postage paid. Matthews, "Four Oaks", Stockton Brook, Stoke-on-Trent.

• Dinky Toys, 3 Supertoys, fair condition, 30/-. Goodchap, White House, Over, Almondsbury, Nr. Bristol.

• "M.M.'s", April 1958-August 1961, perfect condition, 25/-. Garnett, Easton Hall, Norwich. NOR. 54X.

• Three volumes of Model Railway News, 1928-1930. Also two other Model Railway Books. Offers to: 68 Cromford Way, New Malden, Surrey.

• Hornby 00 Train Set, three rail, complete with Controllers and Transformers, Rails, Points, Stations, Bridges, three Engines, Passenger and Goods Train, miscellaneous extras. S.A.E.: Brind, The Manor, East Markham, Newark, Notts.

• Mamod MM2 Steam Engine, good condition, 25/- o.n.o. Marks, 68 Minster Road, London, N.W.2.

• Hornby "00" 3-rail. Cost £70 new—includes Track, Engines, Controllers, many accessories. Send S.A.E. for price list. Watson 6 Woodlands Road, Gillingham, Kent.

• "M.M.'s" Jan. '45-Sept '46, two missing. Good condition. Offers. Butler, 24 Chippendale Close, High Wycombe, Bucks.

• Hornby Dublo (3-rail). Large Single Track, Points, Locomotives, Coaches, Transformer, accessories—£10. "M.M.'s", May 1958-Aug. 1963, 30/-. Both offers in good condition. Further details: Herley, 60 Station Rd., Quairton, Bucks.

• Ex-L.M.S. Express Engines at rest and in action, postcard prints 9d. each. S.A.E. for list. Princess Elizabeth Preservation Fund, 19 Charlotte Road, Edgbaston, Birmingham 15.

• "M.M.'s", January 1958-January 1963, complete. Excellent condition. Offers: Phillips, 70 Grange Road, Birmingham 10.

• "M.M.'s", 1957-61 complete, 6d. each or 6/- a year. Dougan, 7 Speirs Rd., Bearsden, Glasgow.

• "M.M.'s", 1945-50, inc. complete, except for Oct., Dec. 1945, and Nov., Dec. 1946. Offers: D. H. G. Varley, 21 Parkfield Road, Coleshill, Nr. Birmingham.

• One Mills 75 c.c. Diesel Engine, partly run in, never flown, £2/15/0. Also Nylon Prop, and two Spinners and Engine Test Stand, 15/-. Taylor, 76 Whitefield Road, Walton, Nr. Warrington, Lancashire.

• Brickplayer £1, Soccerette 30s., Slazenger Bow 30s., all excellent. Mainds, 29 Woodside Avenue, Chesham Bois, Bucks. Tel. AMErsham 263.

• Over 500 unmounted British Colonial and Commonwealth stamps worth over £19. Offers? Foote, "Valrose", Edinburgh Drive, Spalding, Lincolnshire.

• Mamod Steam Engines; Steam Roller, SE2, M.M.1. Also Kodak 127 camera. All as new. S.A.E. for details. Deurell, 55 Coronation Ave., Bath, Somerset.

• No. 3 BAYKO Building Set by Plimpton Engineering Co. Also spare parts. Details from R. Doyle, C.I.E., Rosslare, Eire.

• Collection of New Zealand and Australian Railways and Shipping Photographs, 10/- per doz. Send for list. Box 23, Tawa, New Zealand.

Sports equipment

P.B.K. CANOES

Plans, Materials, Accessories, Dinghy fittings and Sails

G. G. HINTON (6), Milton St., Fairford, Glos. S.A.E.

Chemistry apparatus

CHEMISTRY APPARATUS



Send 5d. in stamps for LATEST **PRICE LIST**

Booklets:
'EXPERIMENTS' 1/3
'FORMULÆ' 1/3
'EASY HOME CHEMISTRY' new edition 3/-
(Post Free)

BECK (SCIENTIFIC DEPT. G), 60 High St., STOKE NEWINGTON, LONDON N.16

Radio equipment

HEAR ALL CONTINENTS

WITH H.A.C. SHORT-WAVE RECEIVERS

Noted for over 25 years for . . .
S.W. Receivers of Quality

Improved 1964 Models now available . . . provide even more startling results.

One-Valve Model "CX" . . . . . Price 34/6
Two-Valve Model "E" . . . . . Price 52/6

All kits complete with all components, accessories, and full instructions. Before ordering call and inspect a demonstration receiver, or send stamped, addressed envelope for descriptive catalogue.

"H.A.C." SHORT-WAVE PRODUCTS
(Dept. M.M.), 44, Old Bond St., London, W.1

subscribe **now** to

meccano magazine

practical boy's own hobbies magazine
and make sure of receiving your future copies regularly through post.
subscription rates—20s. per year
U.S.A. and Canada $3.00 payable in advance

please send me the *meccano magazine* for one year (12 issues) commencing with .....

I enclose p.o/cheque value .....

date .....

name .....

address .....

.....

Please post this coupon with your remittance for one year to *meccano magazine* circulation department, 69 Victoria Street, London S.W.1.

by **Layoutman**

Miniature train formations

IN GIVING serious consideration to miniature train formations based on actual practice, as we have done in our series over the past few months, it should be remembered that parcels trains have a wide range of applications, either as entire trains or as part of existing formations.

Operationally, they are particularly interesting, having their places in differing forms in the timetable of the Longdon, Newborough and Easthyde Railway (LNER) —the author's 2-rail 00 gauge layout. At the main terminal station of Longdon and at the main station of Newborough (recently rebuilt) platforms are provided basically for loading and unloading parcels and mail.

In the daily timetable the regular northbound parcels train leaving Longdon at 6.40 am is made up of Hornby-Dublo stock No. 4075 passenger brake van, No. 4325 12-ton van and No. 4305 passenger fruit van, the numbers of stock depending upon requirements. For the period of about six weeks before Christmas the stock requirements are increased. Passenger express trains often include a passenger brake van, or similar vehicle, at the rear of the passenger stock to move parcels over long distances. On country branch lines parcels are mainly handled in the 12-ton vans, which are unloaded in the station sidings. At 9.15 am a daily southbound parcels train consisting of two passenger brake vans, or one passenger brake van and two passenger fruit vans, leaves Newborough, stopping in turn at Abbotts Holme, Easthyde, Hatfield and Smallford to collect parcels from the station platforms, arriving at Longdon at 12.55 pm Around Christmas time this train is run in duplicate, and frequently Hornby-Dublo No. 4323 4-wheeled utility vans are employed, parcels loaded into these being intended for Southern Region destinations beyond the scope of the author's layout.

At 10.30 am a parcels train consisting of a number of 12-ton vans, each having its own destination, and a goods brake van leave Longdon scheduled for Cambridge. Parcels vans for the Hatfield area are shunted off into a Hatfield siding and the train moves on to Newborough where parcels vans for this area are similarly shunted off. The train then leaves for Cambridge. Actually, it runs into a hidden siding.

The return train is scheduled to leave Cambridge at 6.10 pm to make the return journey, picking up loaded parcels vans from Newborough and Hatfield for unloading at Longdon during the night hours.

From this description it will be seen that the running of parcels trains on any size of layout can be broadly divided into four groups:—

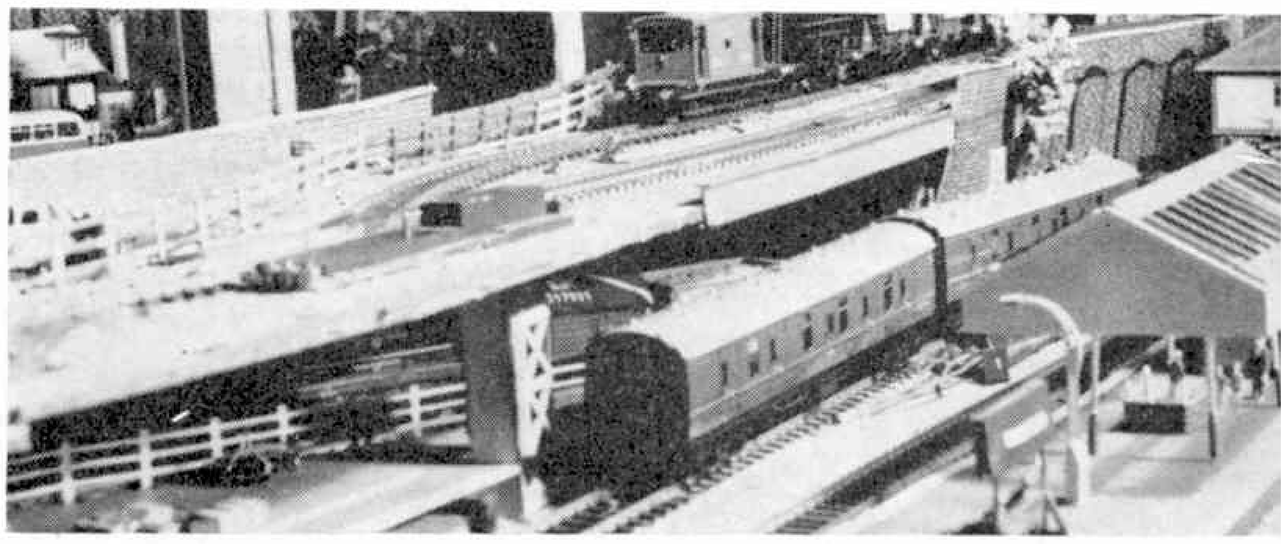
1. Stopping trains, where parcels are collected and delivered on to station platforms.
2. Express parcels delivery, where vans are attached to express passenger trains.
3. Semi-fast trains hauling loaded parcels vans between main stations for subsequent dispatch to surrounding areas.
4. Local parcels trains, where loaded vans are picked up from main centres and delivered to country stations, either attached to local stopping passenger trains or hauled by an 0-6-0 tank locomotive.

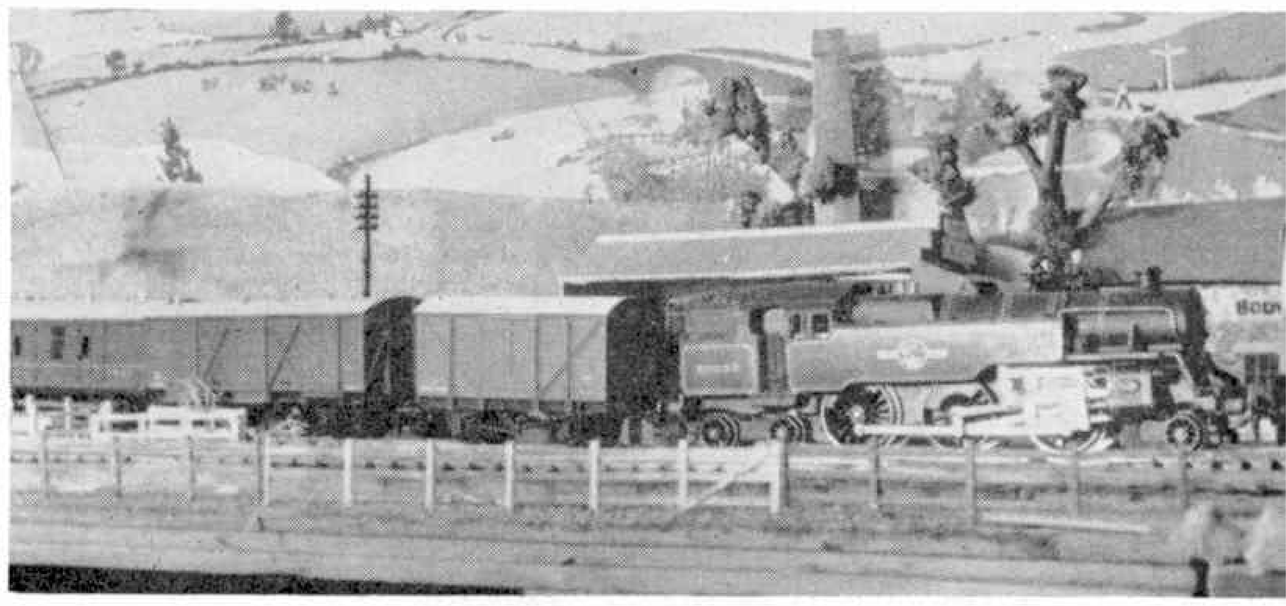
In my view, parcels trains offer perhaps the widest variety of operations open to any type of train on a Hornby-Dublo layout—even on the simplest.

Top: The 9.15 am parcels train of two passenger brake vans leaves Newborough parcels siding behind an 0-6-2 tank loco.

Middle: The 6.40 am parcels train steams through this countryside between Longdon and Hatfield on the L.N.E.R. layout.

Bottom: A parcels train being loaded from platform 4 of Longdon terminus station.







BARGAIN DISCOUNT APPROVALS!

No "free gifts" or gimmicks but a really FIRST CLASS Approval Service in our BARGAIN DISCOUNT APPROVALS, offering modern and new issues in singles and sets at fair prices, (less a generous discount). Br. Colonials or Whole World lots, outward postage paid. "Wants" lists of modern Br. Cols or G.B. welcomed, no obligation to buy. For the best approvals send to us to-day! NO STAMPS SENT ABROAD.

THE BIRKDALE STAMP COMPANY, 104 Liverpool Road, Southport, Lancs.

Postal Business — No Callers

STAMP COLLECTORS

JOIN OUR TREASURE TRAIL!

Receive each month one of our parcels containing many thousands of mixed "off-paper" stamps. You may keep any you require at 1d. EACH (or 15 PER 1/– for larger purchases).

MANY HIGHLY CATALOGUED STAMPS—INCLUDING PENNY BLACKS—HAVE BEEN FOUND IN THESE BOXES.

Write TODAY for full details and trial box (applicants under 21, parents' consent please) to:

THE FAIRLEE STAMP CLUB (M)

Fair Lee, Clifton, Bristol.

BRITISH COMMONWEALTH APPROVALS

Finest selections for Beginners and Medium Collectors of all ages. Available by individual countries if required. Please state interests. 50 DIFFERENT STAMPS ABSOLUTELY FREE to all genuine applicants.
Overseas applicants welcomed.
Postage appreciated

T. E. BAXTER (MM)

6 Norbury Road, Birmingham 22c.

SERIOUS COLLECTORS SHOULD SEND FOR SELECTION OF FIRST-CLASS APPROVALS STATING CHIEF INTERESTS
H. B. LANG, 3 Brooklyn Avenue
South Norwood. London S.E.25

---

60 DIFF. STAMPS FROM THE BRITISH EMPIRE for 3D PLUS 3D POSTAGE

Including unusual countries such as Montserrat, Grenada, Cayman Islands, Selangor, Br. Honduras, etc. Super new offer to new members of the Sterling Stamp Club (admission free—many advantages). Just send two 3d. stamps and ask to see a selection of our popular Sterling Approvals. (Without approvals, 2/6.) Please tell your parents.
STERLING STAMP SERVICE
(Dept. M10), Lancing, Sussex.



11 NEW ZEALAND & AUSTRALIA CHRISTMAS STAMPS FREE

Set of 3 multicoloured NEW ZEALAND 1960-62 Christmas Stamps, and set of 8 AUSTRALIA 1957-62 Christmas stamps. Total value is 4/11d. Stamps show beautiful Christmas scenes and famous Paintings in colour. All free. Ask to see our New Approvals (no need to buy anything), enclose 3d. towards postage. Please tell your parents.

UNIVERSAL STAMP CO. (Dept. MM.11), Eastrington, Goole, Yorks.

FREE. 4 Mint 1964 BAHAMAS New Issues. Set **Four** large attractive, colourful 1964 **Bahamas New Constitution** Mint absolutely **Free** to all applicants for my **Popular "Marvel" Approvals,** enclosing 6d. towards cost of postage, etc. Tell your parents.

FREE. Two Large Monaco Football with all orders for the following packets: 10 Antigua, 3/6; 10 Bermuda, 2/6; 50 Ceylon, 3/10; 50 Egypt, 2/4; 50 Iraq, 3/-; 25 Kenya, 2/9; 50 Pakistan, 2/9; 50 Sudan, 9/3; 15 Tonga, 7/6. Postage extra.

W. GRANVILLE LUCAS (BN) HINCKLEY, LEICESTERSHIRE

---

10 TRANSPORT, FREE to everyone ordering one of these PACKETS

10 diff.		25 diff.		50 diff.	
Afghan. (cat. 13/4)	4/6	Columbia	1/6	Bolivia	5/-
Formosa	1/6	Cyprus	4/6	French C.	1/9
Liberia	1/9	Malta	3/-	Persia	2/6
S. Arabia	1/9	Monaco	3/-	Manchuria	4/-
Zanzibar	2/6	Siam	1/9	S. Africa	2/9
		Sudan	4/6	Turkey	2/-

Please tell your parents.
Postage 3d. extra. C.W.O. LIST FREE.
Battstamps (H), 16 Kidderminster Rd., Croydon, Surrey

FABULOUS NEW ISSUE DIAGONALS
Roumania 1964 Olympics: Sent FREE to approval applicants. Postage essential.
YULWONTMOR STAMPS (Dept M)
54 Compton Avenue, Leagrave, Luton, Beds.

BRITISH EMPIRE PACKET FREE. Ask to see my discount approvals and GBN penny mix. Suitable Medium and Junior collectors. (Postage 4½d.)
G. B. Nicholson, 41 Collins Road, Wednesbury, Staffs.

Cigarette Cards — Cat. 500 Illustrations, 1/9. B.C. New Issue Service — Details, S.A.E.
T. H. SMITH, 65 St. Kilda Road, London, W.13

PICTURE CARDS

We offer complete sets in clean condition



50 Footballers	2/9	50 Coins	2/9
50 Cricketers	2/9	50 Birds	2/9
50 History	2/9	50 Trains	2/9
50 Fishes	2/9	50 Animals	2/9
50 Aeroplanes	2/9	50 Soldiers	2/9
50 Ships	2/9	50 Butterflies	2/9

SPECIAL OFFER—3 sets for 6/6
100 different cards 3/– post free

Send 1/3 for 48-page CATALOGUE with over 400 illustrations.

FREE MATCHBOX LABEL



This scarce CEYLON label sent Free to all those sending 3d. and requesting our

MATCHBOX LABEL APPROVALS

MATCHBOX LABEL ALBUM

to hold up to 1,200 labels 6/– post free

WE OFFER MATCHBOX LABELS FOR SALE

25 diff.		100 diff.		200 diff.	
Bulgaria	2/6	Belgium	5/-	Czecho.	10/-
Austria	2/-	Czecho.	5/-	Italy	15/-
Israel	4/-	G.B.	9/-	Russia	15/-
Rumania	2/6	H. Kong	5/-	Sweden	10/-
50 diff.		India	5/-	Hungary	8/-
Poland	3/-	Japan	4/-	500 diff.	
Finland	3/-	Russia	5/-	World	20/-
Italy	3/9	Sweden	5/-	1,000 diff.	
Jugoslav.	3/-	Macau	5/-	World	£2

E. H. W. Ltd. (Dept. M)
12 SICILIAN AVENUE, LONDON W.C.1

---

50 PICTORIAL STAMPS FREE

This packet of stamps is given absolutely **FREE** to all genuine applicants for my superior used British Colonial Approvals enclosing 4½d. in stamps for postage. Overseas Applications Invited.

D. L. ARCHER (M),

2 LITCHFIELD WAY, BROXBOURNE, HERTS.

FREE! 121 Diff Flags of the Nations AND 125 Hinges AND Magnifying Glass

Just request ¼d upwards B. Col. or Foreign Approvals
Please enclose 6d for postage and packing

C. T. BUSH (MM4)
53 Newlyn Way, Parkstone, Poole, Dorset

British Colonial Approvals, sent on 14 days approval. Single Country Books if preferred. Satisfaction and personal service guaranteed.
Ashford, 31A Disraeli Road, Putney, London, S.W15

Classified advertisements continued from page 42

Educational

City of Cardiff Education Committee

REARDON SMITH NAUTICAL COLLEGE, FAIRWATER, CARDIFF

Principal:
Capt. J. N. Rose, R.D., M.I.N., Master Mariner

PRE-SEA TRAINING

This Residential College provides a one year's course of pre-sea training for young men of 16-18 years who wish to become Merchant Navy Officers. Special attention is given to the Cadet's character training, the development of reliability, resourcefulness, trustworthiness and initiative, to the development of the art of leadership and power of command, and to the fostering of a pride in the Merchant Navy as a whole and to their work and standing in particular.

The College has a 43-ton Auxiliary Sailing vessel used for practical training at sea in the Bristol Channel. Remission of NINE months' sea service will be allowed to successful cadets. Fees for residence and tuition £170. Local Education Authorities should be consulted regarding financial assistance.

Prospectus and further information may be obtained from the Principal.

Robert E. Presswood,
Director of Education,
City Hall, Cardiff.

STAMPS

A far-off group

WITH so many countries issuing so many new stamps, even if a collector devoted most of his time to it (as well as all his spare cash) he could hardly keep up with all of them. If he is not to lose interest, as he surely would once he realised that he was getting nowhere, the only remaining course is for him to limit his field—in other words, collect only the countries where progress can be made. Of course, this is what most of us are doing in these days, but I frequently get letters in which I am asked for a suitable group of countries, inside the Commonwealth, the stamps of which must be attractive and not too expensive.

I suppose the most collected group is that of the West Indian colonies, and there was a time when these would have been my first choice. But now, to be candid, I am not so sure that they are the most likely countries to collect. The wind of change is not only blowing strongly from a political point of view, but from a philatelic standpoint also, and unless I am much mistaken, it will not be very long before some of those delectable island post offices will want to demonstrate their freedom to the world, and a likely way of doing it will be by saying it with stamps.

We have seen it already with countries like Ghana and Nigeria—countries which bring out more new stamps in a year, now, than they did in a decade under the old regime, and if the various West Indian countries follow suit, their output will be much more than the type of collector I have in mind can cope with. No, I propose to give the West Indies a miss and suggest that the countries affiliated with Australia are those which are worth attention: very much so, in fact. You see not only are their stamps attractive, but, as their records show, while they can be depended on to issue well designed stamps (which sustain interest) from time to time, there is little fear of the floods of new issues which may, in the not too distant future, flow from the West Indies.

I will enumerate the countries I have in mind, all held in a group, as it were, by their Australian connection. They are Australian Antarctica (the very name is a temptation), Cocos Is., Christmas Is., Nauru, Norfolk Is. and Papua and New Guinea. A nice little bunch indeed, and whereas there will only be room to illustrate one or two of the stamps they have issued, a glance at the catalogues will show that, in general, their stamps are just as attractive as any issued in the whole Commonwealth. A number of them have been designed and printed at the Australian State Printery, which for me is enough, as I have a great admiration for their work. Australians have at times been a little critical about their stamps, but there was really little justification for much of the criticism and anyhow I do not suppose they minded much at the printery, for as they would see, most of the critics quite obviously knew little about what they were criticising.

Cocos Islands and Australian Antarctica

You could make your list of countries an octette by adding Australia itself. But with or without that giant, the pygmies are a nice lot. One of the territories concerned, the Cocos Islands, has just come into the picture for their first issue did not appear until June 11. Another name is Keeling Islands, and apparently, they have not made up their minds which to select. (2) Maybe they propose to use both with a six-value set up to 2s 3d. As Australian currency is concerned, you can buy a full set, and thus complete the country (for the time being) for a very small sum. And there is an interesting point about these stamps: they can be used for postage in Australia, just as you can use those of Australian Antarctica, (4) so don't be surprised if any collector friends in Australia use these Cocos Islands stamps on their letters.

Another of the territories to issue a new set recently is Christmas Island (we would not consider the weather they get there as being very typical of what we know as Christmas), and on August 28 they issued a second set to $1. For the previous five years they had been using an Australian design, overprinted in Straits dollar currency. Why dollars? Well, a glance at the map shows that Malaysia is not too far away and what few people there were on Christmas Island had always used Straits dollars, as they were called.

Big changes

Nauru is another country in the group, where there may be big changes in a very few years, for that island depends, apart from a little copra, almost exclusively on its phosphate deposits and these are rapidly coming to an end. In fact, plans are already being made to move the inhabitants to another island. There is quite a discussion on as to where they shall go. (1)

Papuas

And then of course, there are those far away islands of Norfolk, Papua and New Guinea. I have no doubt that Indonesia would like to get its talons on this last-named territory, but Australia will see to it that they will have to be satisfied with the wish. (3)

So all in all here is a very interesting group of stamps. Unless I am very much mistaken, they will, as time goes on, more than pay for their keep, so I have no hesitation in recommending them to those who do not wish to be quite overwhelmed by the hobby, as I am afraid some collectors are, through trying to take on too much. So who's for the far-away group in the far-away Pacific? Just one more point, there are more mint stamps about than used, but the latter are not too difficult to come by, if your taste runs that way.



1



2



3



4

FREE—

NEWS SPECIAL

the entirely separate newspaper—devoted to up-to-the-minute reviewing of the very latest products for model railways, roads and racing—is given FREE *each month with every copy of the* RAILWAY MODELLER *and* MODEL ROADS AND RACING. *The magazines themselves now contain even more 'shows you how' articles to help you enjoy your hobby to the full. Each magazine is devoted* EXCLUSIVELY *to its own subject.*

RAILWAY MODELLER
model roads and racing

April issues out 25th March—2/6 each

Training for the Merchant Navy



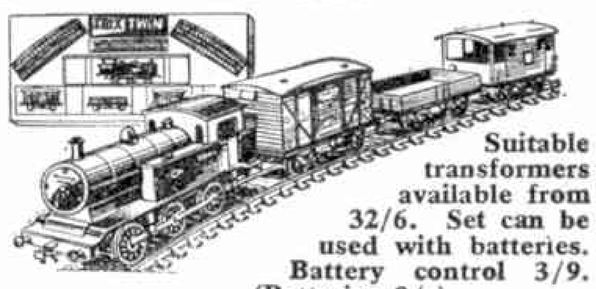
THE H.M.S. CONWAY
Merchant Navy Training School on the Menai Straits
(*Cadets on Entry are Enrolled Cadets R.N.R.*)

"Conway" course trains boys between 13½ and 16½ years for ultimate command in M.N. and R.N. Following the "Conway" motto "Quit ye like Men, be Strong"—Sailing, Rowing, Swimming, Rugby Football are stressed, "Conway" certificate can count as much as 15 months' sea service when taking 2nd Mate's examination. FEES: £351 p.a. (*including a certain amount of uniform*).

ILLUSTRATED PROSPECTUS FROM:—
THE H.M.S. "CONWAY", 18 Nautilus House, Rumford Place, Liverpool, 3

GAMAGES
TRIX 00 GAUGE ELECTRIC TRAIN SET

LESS THAN
HALF PRICE
Originally listed at £3 13 0
GAMAGES PRICE **36/6**
If outside our van area, Post & Pkg. 2/9



Suitable transformers available from 32/6. Set can be used with batteries. Battery control 3/9. (Batteries 9/-).

The set has the usual "Trix" advantage of being able to run TWO trains on one track at the same time.

Running on 3-rail "Trix" Track (a big oval of track is included in the Set measuring 35"×28") the Set includes a powerful 0-6-0 Tank Locomotive and three wagons. The track mentioned above consists of 12 curved and two straights, including the terminal rail.

GAMAGES, HOLBORN, LONDON, E.C.1. HOLborn 8484

MORE SENSATIONAL BARGAINS FROM CONCORD

TAPE RECORDERS



4 Transistor battery portable twin track tape recorders with loudspeaker. Many extras incl. mike, twin track tape, leak-proof batteries, personal earphone, carrying strap etc.

Size only 8"×4½"×2¾". Fast, rewind, record playback. FULLY TESTED. **£4.17.6d.** (Extras £1 sent on appro.) P&P 2/- extra. (C.O.D. 2/6).

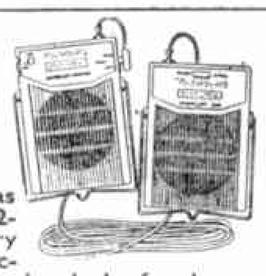
MINIATURE
SPY CAMERA



World shattering Purchase by our Foreign Agents.

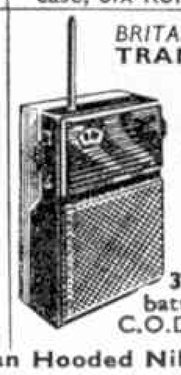
This exciting little camera is not a toy but a precision-made photographic instrument in chromed steel and leather with minute milli-Magnifying Lens—each 14 mm. film takes 10 pictures—size 1¼"×1¼"×2"—Only 18/6, P&P 1/6 ex. FREE Leather Carry-case, Six Rolls of Films.

Fully Transistorised
2-WAY INTERCOM Baby-Alarm



Clear toned 2-way intercom, ideally suited for Office & Home with many uses as Baby Alarm, Invalid 2-way Phone, Temporary Phone for Garage, Factories etc. Loud calling signal, also for alarm. The Ideal Gift, a sensational space age intercom for the children. Only 57/6 + 2/6 P&P.

BRITAIN'S LOWEST PRICED
TRANSISTOR RADIO



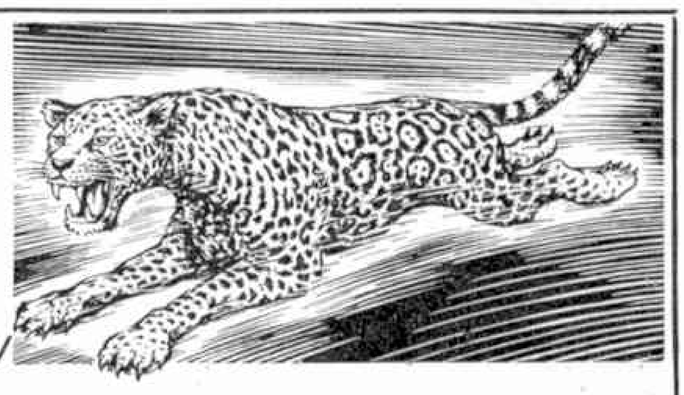
This sensational little radio, so popular in Great Britain, now offered at its lowest price ever 37/6. Powerful Moving Coil Speaker—3 semi conductors—2 latest powerful transistors plus semi-conductor ensure clear reception over M.W. Telescopic aerial. Only 37/6. Carry case, Earpiece and battery 5/- ex. Plus 3/- P&P. C.O.D. 2/6 extra.

FREE with each item, Italian Hooded Nib Fountain Pen

CONCORD ELECTRONICS LTD. (Dept M.M.3) 210 Church Road, Hove, Sussex

Webley

announce their NEW



'JAGUAR' .177 AIR RIFLE

beautifully styled, fitted with telescopic sight mounting plate. The best value possible at the low price of £5.5.0 or complete with 3 magnification telescopic sight £7.7.0.
**Ask to try one at your local dealers, or send for free catalogue.*

WEBLEY & SCOTT LTD.
24 PARK LANE, HANDSWORTH, BIRMINGHAM 21, Est. 1790

NEW

Be first with the latest—
PECO WONDERFUL WAGONS
A. GRESLEY & CO.

Fourth and latest of the 5 plank 00 mineral series. Red oxide body with white lettering shaded black. All strapping and corner plates, black. Complete kit—9/6

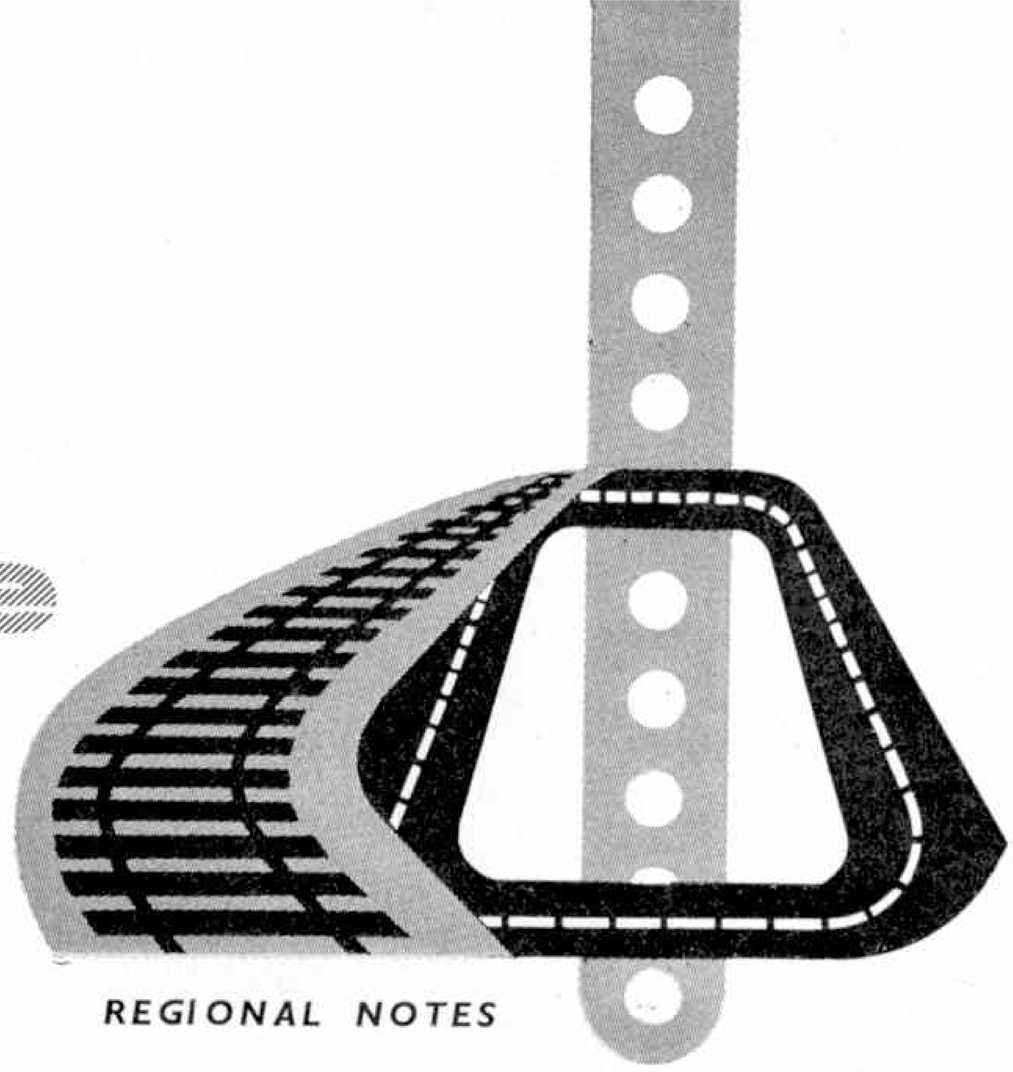
PWLLHELI GRANITE CO. LTD.

Second in the new 3 plank (Private Owner) 00 series. All black body with bold white lettering. Complete kit—9/6

See them at your local model shop now

PECO Pritchard Patent Product Company Ltd
SEATON · DEVON

Around the SOCIETIES



REGIONAL NOTES

Chester Model Railway Club

THE CHESTER Model Railway Club hold meetings every Friday night in their club room on Northgate Station from 7 pm, and have further work nights at other times when needed. The club includes sections for most model railway gauges, the live steam section being particularly active at local functions during the summer months. Film shows and talks are organised from time to time, and a newsletter is published periodically under the title 'Mixed Traffic'.

A major re-building programme is at present being undertaken, and the first limited running has begun on the new 00 layout. Many members are also interested in full size railways, and in preservation, or other activities. A modelling competition, for which there are trophies and other awards, is held annually. From time to time members' work is shown at events organised by neighbouring clubs and societies, with whom the club enjoys the friendliest relationships. Junior members are accepted from 14 years of age, and senior members from 18. Further details can obtained from the hon. secretary, Mr. A. T. Budd, 10, Newton Park View, Newton, Chester.

Locomotive Club of Great Britain

THE 'B4' rail tour organised by the Locomotive Club of Great Britain in 1963 proved extremely popular, and the club's rail tours committee have arranged another trip, this time starting and finishing in Hampshire. It was originally intended to use the preserved 'T9' class No. 120, but this is now unserviceable and awaits official preservation in a British Transport Museum.

The special train will depart from Portsmouth and Southsea at 10.34 am, Fratton (10.38 am to take up passengers), and will run to Eastleigh Works Yard via Botley. After a stop of 90 minutes the train is to depart for Salisbury, via Chandler's Ford, Romsey, Stockbridge and Andover Junction, where the train will stop for another 55 minutes. It will then complete the first journey by travelling through Fordingbridge, West Moors, Broadstone and Poole to Hamworthy Goods. The return trip will be run via the single line to Southampton Central, Broadstone, Ringwood and Brockenhurst, where the train is due to arrive at 6.30 pm.

In addition to the visits to Eastleigh Works and Motive Power Depot, arrangements are being made for visits to Fratton and Salisbury to take place en route. It is hoped to stage photographic stops at Fullerton, Fordingbridge and Ashley Heath Halt.

The motive power will be an SR 'Q' class 0-6-0 locomotive, and the train will be formed from five or six coaches, of mainly open type stock, with a Buffet Car for refreshments. The fares will be **£1 6s.** for members, and **£2 7s. 6d.** for members wishing to travel to and from London in addition to making the rail tour. Visitors will be charged **£1 8s. 6d.** for the rail tour, and **£2 10s.** for transport to and from London. Children may join the tour at a cost of **16s.**, or **£1 7s.** if transport to and from London is required. Applications for tickets should be made to Mr. D. Murphy, of 'Polzeath', 28, Belgrave Crescent, Donnington, Chichester, Sussex. Remittances will not be acknowledged unless an additional S.A.E. or post card is enclosed. Tickets and itineraries will be despatched approximately seven days prior to the tour.

East Ham & District M.R.C.

IN RECENT months, a great deal of work has been done renovating and rebuilding the club's 00 layout. Some of the track and wiring have been renewed, and the results will be seen on track nights this month. The training of operators will shortly start in readiness for the coming exhibitions. In addition the EM layout is partly finished, and it is anticipated that this, too, will soon be ready for display. The programme for April is as follows:—April 6, Track Night; 13, Film Show (slides); 20, Practical night; 27, Track Night. Meetings are held every Monday night at 7.30 at St. Gabriel's Church Hall, Park Road, Aldersbrook Road, London, E11 (101 bus to the door). Further details can be obtained on club nights, or from the secretary, Mr. G. R. Lloyd, of 32a Goldsmith Road, London, E10 (S.A.E. please).

Northolt Model Railway Club

THIS CLUB continues to make good progress on its new 2-rail layout, and the 'OO' stud-contact layout is being extended to include a new terminus. The narrow gauge layout is being graced with some excellent lineside details. The 'O' gauge members in the district would be welcome to participate in the construction of the 'O' gauge layout, which although active, could well do with more members.

The passenger-carrying track under construction in the grounds is now 200 ft long. Anyone wishing to join in a very active club should write to the hon. secretary Mr. J. F. Saville, of 381a North Circular Road, Neasden, London, NW10.

Maylands Meccano Club

FULL CREDIT must go to Mike Connell for obtaining 100 per cent. for his model of the old Super Model Traction Engine. Good work, Mike! Among completed models were Robert Wissink's Dumper Truck (96 per cent.) and Trevor Criddle's Printing Machine, as featured in the October 1959 Magazine, (91 per cent.). Models under construction include David Sibley's Motor Chassis, which was the model of the month for January 1957. David is leaving the club shortly to join the RAAF Engineering School in Sydney and the club wishes him every success. Another member who has left the club is Gary McDonald, who has gone to live near Sydney.

Other models built or being built at the time these notes were written include Malcolm Criddle's Electric Mobile Crane, a Front-Wheel Drive Chassis by John Carter, the Giant Block-Setting Crane by Trevor Carpenter and the old Super Model Dragline by Peter Wasser.

Trevor Criddle has had to resign as club librarian as he is already a faction leader and the secretary of the club. Address: 17 Kenilworth Street, Maylands, Western Australia.

Award of Merit Medallions

IT ALWAYS gives me pleasure (writes the Secretary of the Meccano Guild) to award Merit Medallions for work of an outstanding nature on behalf of the Guild. Over the past 12 months eight medallions have been won by members of the Maylands Meccano Club, Western Australia. The recipients of the medals are J. Carter, N. Fermanis, S. Hunter, D. Parham, R. Parham, B. Potter, M. Thair and P. Wasser. I send hearty congratulations to them all.

Keswick (Wembley) H.R.C.

DURING LAST winter the club maintained a very good attendance at its weekly meetings, and a large amount of reconstruction work was carried out. The steam loco sheds have been extended to accommodate 34 locos and there are now 27 steam locos in use. This extension has required additional electrical control equipment on the station area control panel, all of which has been carried out by members under the supervision of the chairman. Fifteen yards of track has been renewed on the up and down slow line at Newark Station and the granite quarry has been rebuilt and track renewed and realigned. This section has also been track circuited, so that trains operating on it give a light indication on the main indicator panel, which is mounted above the main control panel.

Additional coaching stock has been purchased and includes three Southern Region corridor coaches and the new L.M. Region Restaurant Car, bringing the total carriage stock up to 44. Additional goods wagons have also been purchased, bringing the wagon stock up to 156. Work now in progress is to rebuild the carriage sidings at Overton Station to increase coaching stock.

Bathgate & District M.R.C.

THE FOLLOWING officials have been elected for the 1964 period: President, Mr. L. Gilchrist; vice-president, Mr. W. Roberts; secretary, Mr. A. Glenn; treasurer, Mr. J. Baird; assistant treasurer, Mr. R. Baird. It was decided at the annual meeting on January 14, to construct a club layout to enable members to show models, but as meetings are at present being held in Mr. J. Baird's house at 121 Lower Bathville, Armadale from 6.30 pm, it was suggested to construct only a small portable layout. As the outings organised last year were most successful, it was decided to arrange the following outings for 1964: April 5, coach run to Balloch and Helensburgh for members and families; June 21, or 28, Diesel rail tour from Bathgate upper station, also for members and their families. Further details can be obtained from the club's secretary, Mr. A. Glenn, of 12 Boghead Crescent, Falside, Bathgate.

The Model Railway Club

CLUB FIXTURES for April are: March 31-April 4; Exhibition at Central Hall; April 9, Clearing-up night; April 16, Track night (All Groups); April 23, Track night (Narrow Gauge and Light Railways Group); April 30, Lecture 'Modelling Freight Stock' by T. W. Bourne. Meetings take place at the club's headquarters, Keen House, Calshot Street, King's Cross, London, N1. Please address all inquiries to the hon. secretary, Mr. D. A. Boreham, of 135 Mandeville Road, Northolt, Middlesex.

Northern Railfans' Club

THE PROGRAMME for April is as follows: April 19, visit to London Area Motive Power Depots, starting from Leeds; April 25, visit to the Motive Power Depots in the East Midlands, from Crewe. The minimum age for membership to this club is 12 years, to comply with British Railways' conditions. Inquiries about both the club and visits should be addressed to Mr. C. B. Brown (X) of 17 Glen View Street, Cornholme, Todmorden, Lancashire.

Scottish Locomotive Preservation Fund

THE SCOTTISH Locomotive Preservation Fund are chartering p.s. 'Jeanie Deans' on Saturday, May 9 for a cruise on the Firth of Clyde. Tickets for both the cruises and meals are available from Mr. J. M. D. Warren, of 19 Cleveden Gardens, Glasgow, W2. People wishing to join the cruise are requested to note that all cheques, postal orders or money orders should be made out to the 'Scottish Locomotive Preservation Fund', and crossed.

The itinerary arranged is: Depart Craigendoran, 10.45 am. The cruise continues via Cowal Shore, Toward Point, mouth of Loch Striven, Kyles of Bute, Loch Riddon and Ardlamont Point, arriving at Ardrishaig at 2.30 pm. The departure from Ardrishaig is at 4 pm and the return cruise is to be via Kintyre, Skipness Bay, Cock of Arran, between Cumbraes, and Largs Channel to Gourock, arriving at 8.15 pm. The boat continues on to Craigendoran to arrive at 8.45 pm. The last connecting trains for the excursion are from Glasgow, Queen Street (Low Level) 9.14 am to Helensburgh and Glasgow (Central) and Paisley (Gilmour Street) 9.30 am to Gourock. Please note that there is a half hour interval service of electric trains between Glasgow and Helensburgh. In both cases it would be preferable for passengers to travel by an earlier train if possible.

Landy Tanks Fund

AS WE go to press I hear that efforts are being made to preserve two Lancashire and Yorkshire Railway saddle tank locomotives, Nos. 11305 and 51218. No. 51218 is a 0-4-0, and No. 11305 is a 0-6-0.

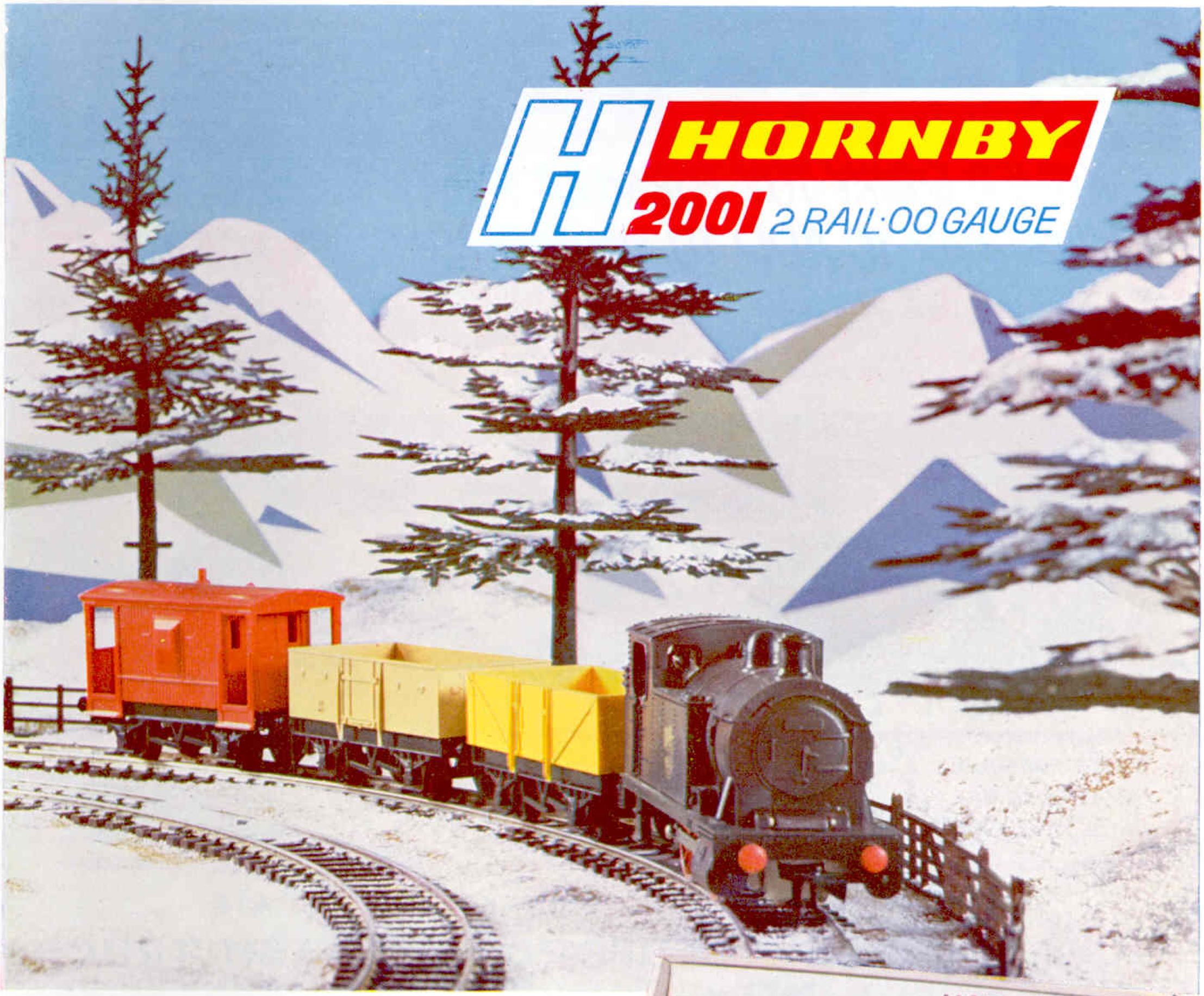
Donations should be sent to 'Saddle-tank Fund', c/o 14 Mere Street, Rochdale.

YMCA Hornby Railway Club

THE LYTHAM St. Annes and Fylde YMCA Hornby Railway Club is still recuperating from its summer exhibition, when it was open to the general public for almost three months in the holidays. The exhibition was run by the members on a rota system—three different boys each week—and this was quite a job as 1,500 people saw the layout.

The railway was also open at the YMCA's annual two-day Christmas Fair when local dignitaries became so engrossed in the layout that they had to be almost forcibly ejected so that they could declare the fair open.

Under the guidance of the Model Railway Secretary, 14-year-old Brian Pickett, and the two adult leaders, Mr. John Price and Mr. Harry Fieldsend, many minor alterations and improvements have been made to the layout.



READY-TO-RUN electric train set

Start your own railway with this wonderful, low-price Tank Goods Set! The 2001 Set includes a track over 8 feet in circumference *PLUS a Hornby Power/Control Unit* which provides speed control and reversing at no extra cost.

TRACK PACKS ENLARGE YOUR LAYOUT

Add to your fun and increase your layouts with Hornby Track Packs. There are three to choose from containing extra rails and Simplex Points—and you can make many different layouts with every Pack.

MADE AND GUARANTEED BY MECCANO LIMITED.



COMPLETE with power/control unit for only 85/-

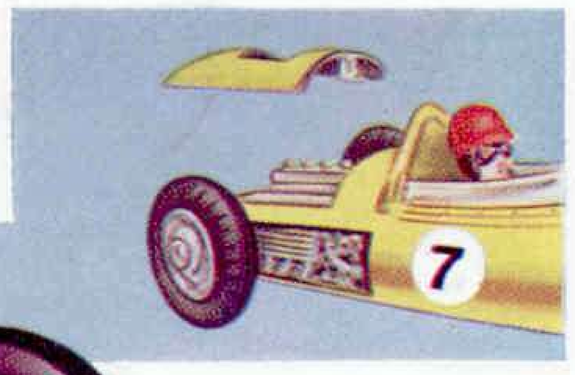
DINKY TOYS® LATEST MODELS

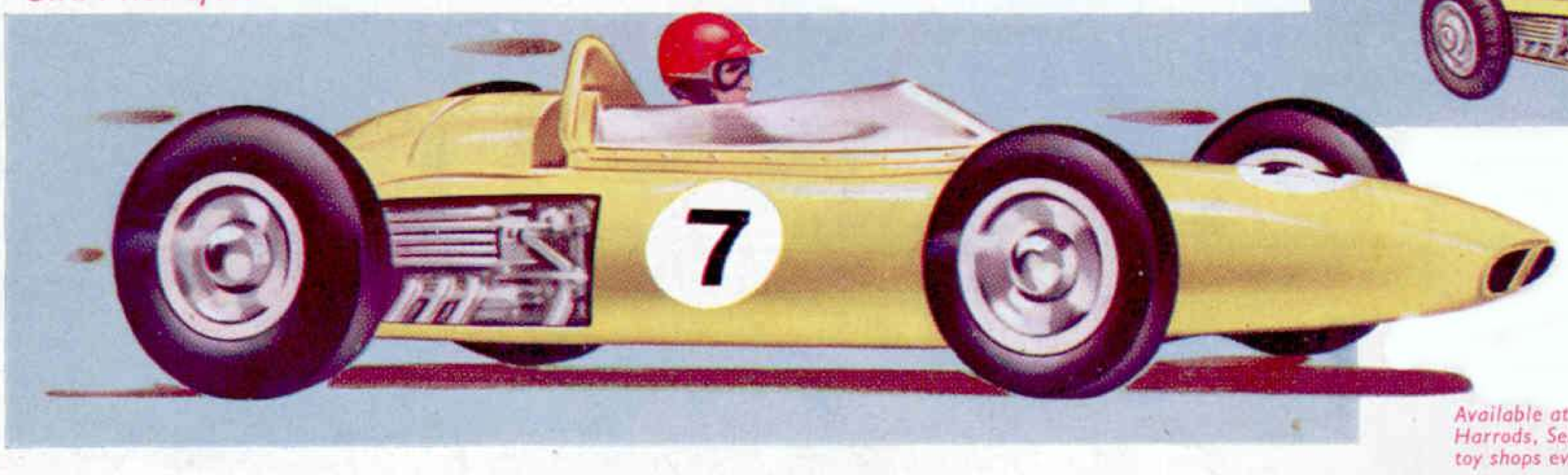
ANOTHER DINKY TOY FORMULA 1 RACING CAR TO ADD TO YOUR STABLE

No 243

B.R.M.

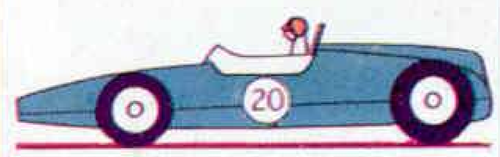
Finished in brilliant colours with a detachable cowl, the BRM, No. 243, has 4-wheel suspension, windscreen and driver. The removable engine cowl gives access to a sparkling, aluminium-coloured replica of an engine, and, with the cowl in place, the engine can be seen through the air-intake. Dinky's fourth Formula 1 model. U.K. Price **3/11.**





Available at: Gamages, Hamleys, Harrods, Selfridges and all good toy shops everywhere

OTHER FORMULA 1 MODELS IN THE DINKY TOYS RANGE







FULLY OPERATING WINCH

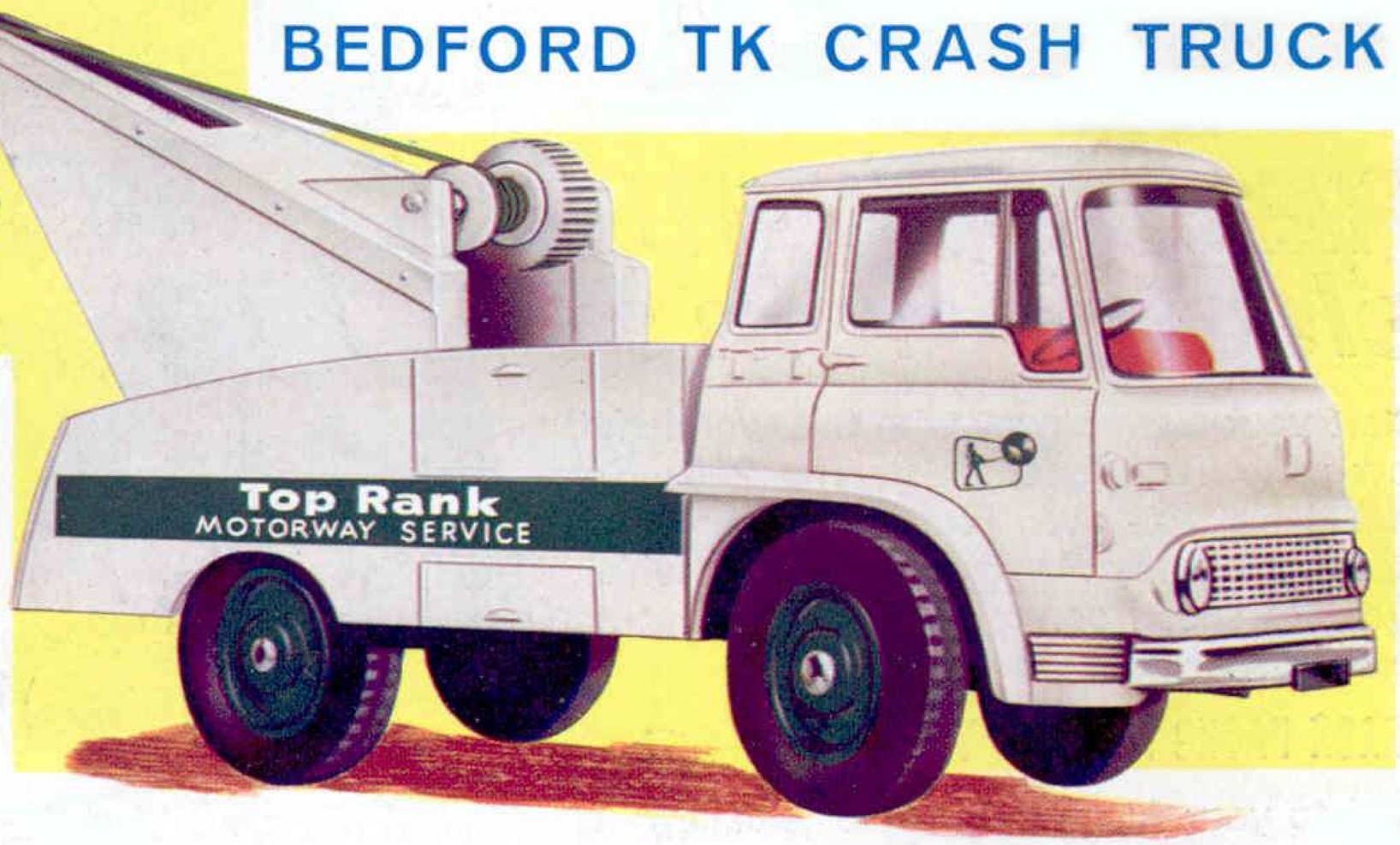


Available Overseas later.

A MUST FOR YOUR MOTORWAY—THE BEDFORD TK CRASH TRUCK

DINKY TOYS No 434

BEDFORD TK CRASH TRUCK



This latest addition to the Dinky Toys range is based on the famous Bedford TK Chassis, used in commercial vehicles everywhere, and is finished in the white and green livery of Top Rank Motorway Service. Features include a working winch, operated by a knurled wheel, windows, seats and steering wheel. Order it from your Dealer now! U.K. Price **7/11.**

ADD THESE LATEST MODELS TO YOUR COLLECTION NOW!

Published by Thomas Skinner & Co. (Publishers) Ltd., St. Alphage House, Fore St., London, E.C.2. Printed by James Cond Ltd., Charlotte St., Birmingham 3